FITCHBURG STATE COLLEGE
UNDERGRADUATE CATALOGUE

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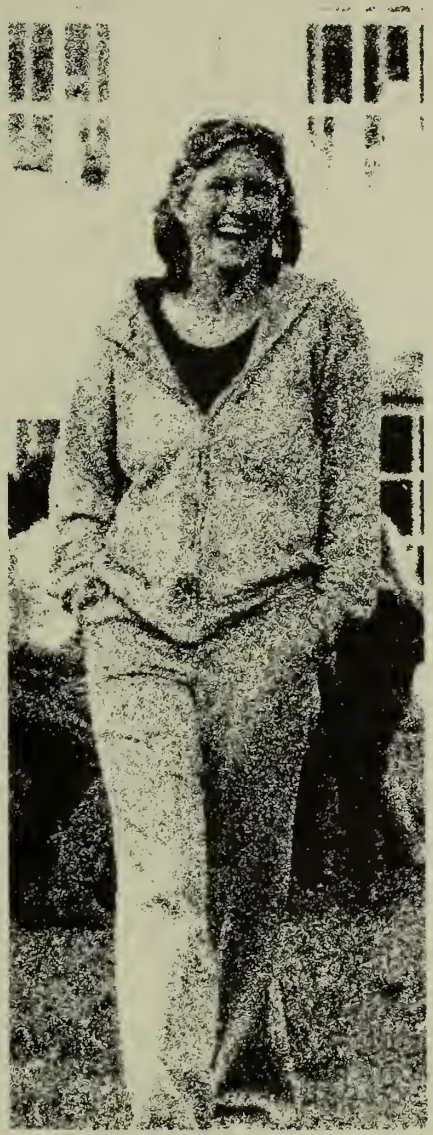

FITCHBURG STATE COLLEGE

UNDERGRADUATE CATALOGUE

1980/81

Fitchburg State College maintains its policy of non-discrimination and Affirmative Action in fulfillment of the requirements of Executive Orders 11246 and 11375, Titles IV, VI, VII, IX and X of the Civil Rights Act of 1964 as amended in 1972, Titles VII and VIII of the Public Health Service Act, Section 504 of the Rehabilitation Act of 1973 and other state and federal statutes.

To the College Community,

Daniel Webster, officiating at the laying of the cornerstone for the Bunker Hill Monument, said "human thought is the process by which human ends are ultimately answered."

How typically wise of Webster, who in his day was the political soul of New England, to note the paramount power of thought on an occasion marking the brute strength of powder and shell and farmers with bayonets.

Webster's wisdom is clear to the Fitchburg State Community. It is the adamant strength of ideas, like the outcropping hills of Montachusett, that endure in the weathering process of serving human ends.

It is clear because here at Fitchburg State we educate the nurses and teachers, the scientists and businessmen, the photographers, journalists, lawyers, media specialists and the technicians of computers and poetry: the women and the men who, equipped with the power of human thought, achieve for our society the human ends it values so highly.

And, having experienced this process, our vision, like Webster's is not clouded by the momentary occasions of life. We are clear about our purpose and we have developed the personal abilities and structural processes for attaining it.

We have developed a rich academic life. Nearly three-quarters of our faculty hold advanced degrees and all pursue an active intellectual life that includes publishing, lecturing and research. Our library, laboratories, galleries, and auditoriums are of the finest quality.

And, our student life is rich. We provide new and varied residence quarters, health and counseling services, job placement, financial assistance programs, popular films and entertainment and a diversified athletic program. Most importantly, there is the easy friendliness between students and faculty which is the richest quality of all.

It is this combination of an exhilarating academic and social life that builds the broad human being who can face the narrow challenges of life's varied roles. Our graduates will be parents and workers, owners and builders, citizens and statesmen: and, they will serve these roles well because we have served ours well.

We are proud that we value human thought and human ends. We hope that those who join us will leave as lucid about their own values and as clear about the process for living by them as we are. We have the experience to know this happens here and the acquired vigilance of learned men and women to assure that it continues to do so. Welcome to Fitchburg State.

Vincent J. Mara, Ph.D.
President

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FITCHBURG STATE COLLEGE CALENDAR
Academic Calendar 1980-1981

Fall, 1980

September 1	Monday	Residence Halls open for all new students 9:00 a.m. and Student Teachers 3:30 p.m.
2	Tuesday	College opens including Residence Halls for returning students. First Student Teaching Station begins.
3	Wednesday	Classes begin 8:30 a.m.
17	Wednesday	Final Day for Dropping/Adding Courses.
24	Wednesday	Fall Academic Convocation
October 1	Wednesday	Final Day for making up INCOMPLETE from previous semester.
9	Thursday	U.S. & Mass. Constitution Examinations
13	Monday	Columbus Day, No Classes.
24	Friday	First Student Teaching Station ends (8 weeks). Final Day for Withdrawal from classes without penalty (8 weeks).
27	Monday	Second Student Teaching Station begins.
November 11	Tuesday	Veteran's Day, No classes.
13	Thursday	U.S. & Mass. Constitution Examinations.
26	Wednesday	Thanksgiving recess begins 3:30 p.m. Residence Halls close 5:00 p.m.
30	Sunday	Thanksgiving recess ends; Residence Halls re-open 3:00 p.m.
December 10	Wednesday	Last Day of Fall Semester classes.
11	Thursday	Reading and Review Day.
12-20	Friday thru Saturday	Final Semester Examinations; Saturdays December 13 and 20 are included.
19	Friday	Second Student Teaching Station ends (8 weeks)
20	Saturday	Residence Halls close.

Spring 1981

January	18	Sunday	Residence Halls open 3:00 p.m. for student teachers only.
	19	Monday	College opens—Residence Halls open for all other resident students 10:00 a.m. First Student Teaching Station begins.
	20	Tuesday	Classes begin 8:30 a.m.
February	3	Tuesday	Final day for dropping/adding courses.
	16	Monday	Washington's Birthday, No classes.
	17	Tuesday	Final day for making up INCOMPLETE from previous semester.
	19	Thursday	U.S. & Mass. Constitution Examinations.
March	13	Friday	Last day for Withdrawal from classes without penalty (8 weeks).
	20	Friday	First Student Teaching Station ends (8 weeks). Spring vacation begins 4:30 p.m. Residence Halls close 6:00 p.m.
	29	Sunday	Spring vacation ends; Residence Halls open 10:00 a.m.
	30	Monday	Second Student Teaching Station begins.
April	17	Friday	Good Friday, No Classes.
	20	Monday	Patriots Day, No Classes.
	23	Thursday	Honors Convocation 1:30 p.m./Afternoon classes suspended.
May	12	Tuesday	Last Day of Spring Semester classes.
	13	Wednesday	Reading & Review Day.
	14	Thursday thru Friday	Final Examinations; Saturday May 16 is included. Second Student Teaching Station ends.
	22	Friday	Residence Halls close 5:00 p.m.
	31	Sunday	Commencement 2:00 p.m.

THE COLLEGE

HISTORY OF THE COLLEGE

The State Normal School in Fitchburg was established in 1894 by an act of the Massachusetts legislature and opened in temporary quarters in the old high school building on Academy Street. Principal John G. Thompson was aided by three teachers, 200 books, and an $11,500 budget for the education of 46 women in a two-year program. In December, 1896, the school moved into its new building and took charge of the Day Street and Highland Avenue city buildings as state schools of observation and practice.

Several years later the Edgerly School was opened on an eight grade model and practice school and in 1910 it became one of the first junior high schools in the United States. The following year a Practical Arts teacher training course for men, the first of its kind in the country, was instituted. The new course assisted in increasing male enrollment.

In 1932, the school was authorized as a four-year college to grant the Bachelor of Science in Education degree and two years later became State Teachers College at Fitchburg. Over the next decades, many departments such as Special Education, Nursing, and Business Administration were added to the existing education departments, and by 1977 Fitchburg State College was offering thirty-one degree programs in the thirteen academic departments to its 3,400 full-time students and 4,600 part-time students. The campus now has 54 acres and 23 buildings.

ACCREDITATION AND MEMBERSHIPS

Fitchburg State College is accredited by the New England Association of Schools and Colleges, The National Council for Accreditation of Teacher Education and the National League for Nursing.

The New England Association of Schools and Colleges is one of six nationally recognized regional accrediting associations in the United States and is the official accrediting agency for schools and colleges in the six New England states. Institutional membership in the Association indicates that the school or college has been carefully evaluated and found to meet standards agreed upon by qualified educators.

Fitchburg State College is a member of the American Association of Colleges of Teacher Education, The College Entrance Examination Board, The American Association of Colleges of Nursing, The American Association of State Colleges and Universities, American Association of University Women, The International Association of Colleges and Universities, The American Council on Education, and The New England Association of College Admissions Counsellors.

GOALS AND OBJECTIVES

THE COLLEGE COMMUNITY

GOAL: A paramount objective of Fitchburg State College is the promotion of the welfare of the entire College community. To this end the College has established the following objectives:

1. To provide a systematic evaluation of present programs, policies, practices, and of all the members of the College community, as well as the regular assessment of needs in conjunction with short, medium, and long-range planning;

2. To strive for the recognition of and respect for the rights and responsibilities of all members of the College community;

3. To establish and maintain well-defined and open channels of communication throughout the structure of the College;

4. To maintain a clearly defined system of governance which calls for active participation by representatives of students, faculty and administrators; and

5. To encourage individuals in their search for truth and in the honest consideration of ideas both in the classroom and in communication with all members of the College community.

STUDENT DEVELOPMENT

GOAL: The intellectual, esthetic, and moral development of students during their college years demands the existence on campus of an attitude or climate suitable to the attainment of this goal. Therefore, the College aims:

1. To develop a spirit of commitment to learning by stressing high standards of intellectual performance by encouraging scholarly research, by developing the ability to analyze and synthesize knowledge from a variety of sources, and by communicating the conviction that learning is a life-time process;

2. To enable students to acquire knowledge in areas such as the Humanities, Social Sciences, Physical Sciences, Biological Sciences and Mathematics as well as a depth of knowledge in at least one academic discipline and/or interdisciplinary studies;

3. To strive for moral development which requires reflection on and self-appropriation of ethical principles as a guide for personal conduct, as a basis for self-esteem, and as an aid to growing in respect for others;

4. To assist students to:

   a. recognize the great moral issues of our time,

   b. develop respect for all peoples,

   c. seek the improvement of the quality of human life in areas such as environment, social problems and other relevant issues of the day; and,

5. To establish those conditions which are conducive to an esthetic environment that involves students and faculty in the determination and promotion of cultural activities.

CAREER EDUCATION

GOAL: The College aims to assist students in identifying their own personal goals and in deciding their careers. To attain this goal, the College strives:

1. To prepare students to meet the needs of society through careers in areas such as teaching, nursing, medical technology, human services, business and industry, and government, among others;

2. To provide programs preparing students for these careers, including programs geared to new and emerging career fields;

3. To provide options and opportunities, including field services, which aid students in securing employment; and,

4. To provide additional training opportunities intended to renew and update persons already holding jobs.

THE MONTACHUSETT COMMUNITY

GOAL: The College must acknowledge some responsibility touching on the life of the local, regional, state and national communities. To this end it aims:

1. To serve as a cultural and intellectual Center for these communities;

2. To cooperate with local, regional, state and federal agencies in attempting to solve local, regional, state and national social, economic or governmental problems;

3. To provide for continuing adult education;

4. To facilitate involvement of students in neighborhood and community service activities; and,

5. To make the most effective and efficient use of the human, natural and material resources provided by these communities.

ADMINISTRATIVE PROCEDURES

AFFIRMATIVE ACTION POLICY

Fitchburg State College maintains its policy of non-discrimination and affirmative action in fulfillment of the requirements of Executive Order 11246 and 11375, Titles IV, VI, VII, IX and X of the Civil Rights Act of 1964 as amended in 1972, Titles VII and VIII of the Public Health Service Act, Section 504 of the Rehabilitation Act of 1973 and other applicable state and federal statutes.

In keeping with the Title IX of the 1972 Education Amendments Act, Fitchburg State College guarantees that no student shall be excluded from participation in, denied the benefits of, or be subjected to discrimination in any of the College's programs or activities. This assurance extends to all aspects of the operation of the College affecting students, such as admissions, financial aid, counseling of all types, classroom procedures, academic and educational programs, athletics, housing, funding of activities, and use of facilities.

CONFIDENTIALITY OF STUDENT RECORDS

This is a summary of the **Massachusetts State College System Guidelines Pertaining to Confidentiality of Student Records.** Copies of the Guidelines are available for study at the library and at offices where records are kept.

Education records include "records, files, documents and other materials which . . . contain information directly related to a student" and "are maintained by an educational agency or institution." The following are excluded: personal files of faculty and administrators; law enforcement records; medical, psychiatric, or psychological records and, employment records of non-student personnel.

Directory Information "includes a student's name, address, telephone listing, date and place of birth, school or college, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student."

The College will release directory information upon request unless the student involved requests in writing that it be suppressed. Such request must be made annually no later than October 1st or, for second semester entrants, February 1st.

Access Rights of Students: Students may have access to records other than those pertaining to parental financial information and those containing confidential evaluations and recommendations written prior to January 1, 1975. A student may waive his/her right to access to materials submitted after that date but must not be required to do so. When a waiver has been employed, the student may, upon request, be notified of the names of those who have submitted evaluations or recommendations.

Access Rights of Others: No one shall have access to education records without written consent by the student except for the following:

1. Faculty and staff who have a legitimate interest;
2. Federal auditors who require information by state and federal statute;
3. Financial aid personnel processing applications;
4. Research agencies which must use data in such a way that individuals cannot be identified and who will destroy the information when it is no longer needed;
5. Accrediting agencies;
6. Parents of dependent students under certain conditions; and
7. Others in emergency situations involving health or safety.

How to Gain Access to a Record: A student who wishes to examine a record must obtain a request form from the Dean of Students' Office upon presentation of a proper identification card. The request form must be completed, and a photostat together with the identification card presented to the office where the record is kept. Only the permanent card (transcript) is considered as a "permanent educational record." Other records may be destroyed in accordance with established schedules. Students may challenge contents of a record. The keeper of said record will discuss the challenge and indicate steps available to the student. The correctness of an assigned grade is not open to challenge but the accuracy of its recording is.

Types and Locations of Records: The following listing denotes types of records and the record keeping office in the daytime session of the College. Students in other sessions of the College should consult with the offices of those Divisions to determine their record-keeping locations.

Type of Record	Office of Record
Academic	Registrar
Admissions (Transcripts, etc.)	Director of Admissions
Athletic	Director of Athletics
Disciplinary	Student Personnel Services
Financial	Business Office
Financial Aid	Director of Financial Aid
Placement	Director of Placement
Scholarships	Associate Dean of Students
Veterans	Coordinator of Veterans Affairs

Since physical location of offices is subject to change, the student should consult the directory at the Highland Avenue entrance to the Administration Building.

Questions related to the material above should be referred to the Student Personnel Services Office. Again, it should be noted that the above is a digest and that the complete guidelines are available for study at the offices listed above and in the Library.

PRIVACY AND CONFIDENTIALITY REGULATIONS PURSUANT TO FAIR INFORMATION PRACTICES ACT

Privacy and Confidentiality regulations pursuant to the Fair Information Practices Act—F.I.P.A.—(Chapter 776 of the Acts of 1965) are posted, together with a copy of the Chapter 776 and the name of the F.I.P.A. administrator on appropriate bulletin boards at the College. They may also be examined at the administrative offices of the College and of the F.I.P.A. administrator.

Included in these regulations are the following sections intended to implement this law.

I. Intent
II. Definitions
III. Implementation Responsibilities
IV. Security Procedures
V. Maintaining Records of Data Usage
VI. Access to Personal Data
VII. Data Subject Objection
VIII. General Procedures
IX. Enforcement Procedures

Students should note that if any of these regulations should conflict with applicable provisions of the federal Privacy Act of 1974, as amended or of any regulations promulgated pursuant to said act, the provisions of said federal act or federal regulations shall control.

HANDICAPPED STUDENTS

Handicapped students are welcome and the College will attempt to satisfy their needs. It is important that handicapped students identify their special needs on their application so that the Registrar can make necessary arrangements.

ADMISSIONS

GENERAL POLICY

Fitchburg State College endeavors to offer admission to those students whose high school records and backgrounds offer promise of a successful and satisfying college experience. Each applicant is considered individually, and the decisions of the Committee on Admissions are based on many factors. Consideration is given to applicants regardless of their race, religion or national origin.

Taken into consideration are the high school record, scores on tests administered by the College Entrance Examination Board, recommendations by the high school principal or guidance counselor, and the extra-curricular and outside-of-school activities. Strong emphasis is placed on the high school record and rank in class.

Applications are accepted beginning in October. In order to be given consideration the application and all supporting credentials should be received by March 1 for freshmen candidates and April 1 for transfer candidates for fall semester admission. Credentials should be received by December 1 for admission to the spring term.

APPLICATIONS

It is necessary that applicants to the College comply with the following requirements:

1. An Application Form should be submitted to the Massachusetts State College System as early as possible during the senior year in high school. Applications may be obtained at high schools, Community Colleges, or State Colleges throughout the Commonwealth of Massachusetts.

2. A transcript of the complete high school record through the first marking period of the senior year should be submitted and should show a minimum of 16 units, preferably in college preparatory subjects. (All students, before entrance to college, must be graduated from high school or offer equivalent preparation.)

3. The College Entrance Examination Scholastic Aptitude Test (SAT) scores and the Student Descriptive Questionnaire (SDQ) must be submitted. The College welcomes the results of the College Entrance Board Achievement Test. Many candidates present Achievement Tests in English and applicants who expect to continue in a foreign language in college should take an Achievement Test in that language. Other Achievement Tests may be taken in the student's major fields of interest. Note that it is the applicant's responsibility to arrange for the forwarding of the necessary test scores directly to the College from the Educational Testing Service in Princeton, New Jersey. The college code number is R 3518.

4. A recommendation of the applicant from his or her high school principal or guidance officer giving evidence of academic interest, ability, and preparation should be sent to the Admissions Office.

5. A "Gap Letter" or resume of activities is required if there has been a time lapse between high school graduation, further schooling, and the application process to Fitchburg State College.

Interviews are not required but can provide the Admissions Committee with helpful information. Applicants who desire to have an interview or to visit the campus are invited to write the Admissions Office for an appointment. Interviews are not scheduled on Saturdays or holidays.

Fitchburg State College employs a "rolling admissions" policy. Rather than a simultaneous notification of all applicants of their acceptance, the candidates are notified on a continuing basis over a period of several months, beginning in the early part of January for September applicants.

TRANSFER STUDENTS

Transfer students are welcome at Fitchburg State. Only students with satisfactory academic and personal records can be considered. An applicant will be considered as a transfer applicant if he/she will hold more than 12 semester units (18 quarter units) of college credit by his/her planned entrance date.

Inquiries regarding the length of time required to complete a degree should be addressed to the Admissions Office.

It is the policy of the Board of Trustees that a student transferring from a two-year institution is entitled to transfer no more than the two years of credit which constitute the requirement of the Associate Degree program taken as a unit.

The following credentials must be submitted by transfer applicants:

1. Application for Admission.
2. Transcript or transcripts of all previous college work, including a statement of honorable dismissal from the last college attended.
3. A catalogue from the previous college(s) with the courses taken clearly marked.
4. A "Gap Letter" or resume of activities is required if there has been a time lapse between high school graduation, further schooling, and the application process to Fitchburg State College.

Transfer credits will normally be granted for work completed in other accredited colleges which was of passing grade or better and in courses similar in content to courses offered at Fitchburg.

This evaluation is made only after an application has been processed and admissibility has been determined. (Maintenance of a "C" average does not insure transfer to a State College.)

A student who has completed the general education requirements of one State College prior to transferring to another State College will not be obliged to meet additional or different general education requirements of the receiving college with the exception of students transferring to the Maritime Academy.

Transfer students exempted from a three-hour Composition requirement in any accredited college or junior college may be exempt from EN 100. No credit is to be given. Students exempted from a six-hour Composition requirement will be exempt from EN 100 to 120. No credit is to be given.

In accordance with the Board of Trustees' policy the following guidelines have been established:

1. Applicants for transfer to any college in the Massachusetts State College system will be evaluated for admission on the basis of their previous college academic record.
2. Whenever possible, degree credit will be granted for course work completed at recognized institutions of higher education. Courses which do not fit the degree program may be counted as fulfilling the open selective requirements of the four-year curriculum. The transfer student will be required to fulfill the same degree requirements as any other student.
3. A student transferring from a baccalaureate level college must successfully complete at least 30 credits as a Fitchburg State College student to receive a degree, which normally must be the senior year.
4. Among equally qualified and eligible transfer applicants, priority in admissions will be as follows:
   a. First priority is given to transfer students in good standing from within the State College system.
   b. Second priority is given to qualified transfer applicants from Massachusetts Community Colleges.

To be given consideration, all applications should be made to the college by April 1.

FINANCIAL ASSISTANCE & STUDENT COSTS

STUDENT COST

The following list includes the essential expenses (exclusive of such items as clothing, travel, and entertainment) for which a student would budget for an academic year.

Application Fee (not refundable nor applicable to tuition)	$10
Tuition	$600 ($300 per semester)
Tuition (out-of-state students)	$2100 ($1050 per semester)
Registration Fee (not refundable but applicable to tuition)	$50
Student Activity Fee	$36 ($18 per semester)
Athletic Fee	$48 ($24 per semester)
Books, Supplies	Approximately $200
Library Fee	$10 ($5 per semester)
Placement Fee (senior only)	$5.00
Resident Hall Deposit (Not refundable but Applicable to second semester room charge)	$50
Room and Board	(See item 5 below)
Educational Service Fee	$15 ($7.50 per semester)
Campus Center Fee	$30 ($15 per semester)
Health Fee	$15 ($7.50 per semester)
Residence Hall Damage Deposit	$50
Orientation Fee	(one time) $20
Student Teaching (usually seniors only)	$75
Insurance (optional)	Approximately $63

All fees are subject to adjustment by the Board of Trustees of State Colleges in keeping with changing costs of operations.
All bills must be paid with either cashiers checks, money orders, bank checks or travelers checks. No personal checks will be allowed.

1. **Application Fee**
   $10 (not refundable nor applicable to tuition).

2. **Tuition**
   - **A.** For residents of Massachusetts: $600 per year—payable in two installments of $300 at the beginning of each semester.
   - **B.** For non-residents: $2100 per year—payable in two installments of $1050 at the beginning of each semester.
   - **C.** For persons age 65 or over, with an annual income less than $12,000, no tuition for courses with available seating after tuition-paying students are enrolled.

3. **Registration Fee**
   A registration Fee of $50 is required of all new students upon acceptance. It is not refundable, but is credited against the first semester tuition for students enrolling in the College.

4. **Student Activity Fee and Athletic Fee**
   All students are required to pay a Student Activity Fee of $36 per year ($18 per semester) and an Athletic Fee of $48.00 per year ($24.00 per semester). These non-refundable charges support certain extra-curricular and organizational programs on campus.

5. **Room and Board for Resident Students**
   The cost of board is $672 per academic year for the five-day plan; $712 per academic year for the seven-day plan, but the room cost depends upon the hall to which a student is assigned. The maximum charge for room at present is $1100 annually and is payable in equal installments at the beginning of each semester.

   A residence hall deposit of $50.00 is required of all students accepted for rooming in a College residence hall. This payment, not refundable, is credited against the second semester room charge.

6. **Tuition Refund Policy**
   A. For new students, freshmen and transfer, there is a $50.00 non-refundable tuition deposit. Such deposit shall be credited to the student's first semester tuition charges. If such a student withdraws prior to the beginning of classes or within the first week of the beginning of classes, two-thirds of the tuition charge shall be refunded. If the student withdraws between the end of the first week and the end of the second week, one-half the tuition charge will be refunded. If the student withdraws between the end of the second week and the end of the third week, one-third of the tuition charge will be refunded. A student withdrawing after the third week of classes shall receive no refund.

   B. For returning students: A student who has paid tuition prior to the opening of school and who notified the school that the student will not be attending any class will be entitled to a full refund of all tuition and fees. If the student withdraws between the beginning of classes and the end of the first week, two-thirds of the tuition charge will be refunded. If the student withdraws between the end of the first week and the end of the second week, one-half the tuition charge will be refunded. If the student withdraws between the end of the second week and the end of the third week, one-third of the tuition charge will be refunded. A student withdrawing after the third week shall not be entitled to any refund.

7. All costs listed above reflect Trustee Policy as of June 1, 1979. Costs may increase if so voted by the Board of Trustees.

PAST DUE STUDENT ACCOUNTS

Any indebtedness to the College which becomes past due, immediately jeopardizes the student's enrollment, and no such student shall be permitted to graduate or register for a subsequent semester or summer school term. Further, any student who fails to pay all indebtedness to the College may not be issued diplomas, degrees, or other official statements, unless otherwise mandated by law.

"It is the policy of the Board of Trustees of State Colleges and of each of its member State Colleges, effective September 20, 1979, that students or former students at any of the State Colleges who are listed by the financial office of said State College as having unpaid debts for tuition, room, board, medical or other College related charges where said debts have not been discharged by operation of law or where deferred payment of said debts has not been agreed to by said College will not (1) be *issued* any *diploma* to which said students might otherwise be entitled; (2) be permitted to register for any program at any State College for which said students might otherwise be eligible; and (3) be furnished a certified copy of any State College transcript (unless said transcript is needed to obtain any benefits related to service in the United States armed forces) although said students will be entitled, upon written request, to inspect and review uncertified copies of their transcripts."

VETERAN EDUCATION

Fitchburg State College is an approved institution for providing education for the veteran.

Veterans are urged to keep themselves informed about benefits available to them through the Veterans

Administration. Information may be obtained from:

John F. Kennedy Federal Building
Veterans Administration—
Regional Office
U.S. Government Center
Boston, Mass. 02203

Vietnam Veterans from Massachusetts are entitled to attend Fitchburg State College on a no-tuition basis. Additional information may be obtained from:

The Commonwealth of
Massachusetts
Department of Education
31 St. James Ave.
Boston, Mass. 02116

FINANCIAL AID AND SCHOLARSHIPS

Fitchburg State College will attempt to award financial assistance to any academically qualified student whose family and/or personal resources are insufficient to meet the College costs. The premise of Financial Aid programs is that parents and students are primarily responsible for meeting college costs. When the costs involved exceed the amount parents and/or students are reasonably able to contribute, financial need exists. Financial assistance is considered a supplement to the family contribution and is based on financial need, which is the difference between the family's resources and the amount of educational costs at the College.

Fitchburg State College administers and coordinates a variety of financial aid programs. Financial Aid is based on need and the availability of funds. It is contingent upon the student's satisfactory progress in his/her course of study.

Students should begin application procedures well in advance of the term during which they are seeking assistance and should observe the deadline for the various programs for which they apply. Those interested in specific programs or seeking specific or updated information should consult the Financial Aid Office as early as possible for assistance in their financial aid planning.

Applicants for financial aid must be citizens of the United States or permanent residents. A Financial Aid Form (FAF) must be filed with the College Scholarship Service in Princeton, N.J., and should indicate the code R3518 for Fitchburg State College. Forms are available in either high school guidance offices or in the Financial Aid Office at the College.

Note: Massachusetts residents must use the Massachusetts Financial Aid Form.

Students should file for the Basic Educational Opportunity Grant. In order to do so, item 46 on the Massachusetts Financial Aid Form must be checked yes and Fitchburg State College must be listed as a recipient. In approximately four to six weeks applicants will receive the results from the Basic Grant Program. These should be submitted to the Financial Aid Office for processing with a Fitchburg State College Application for Financial Aid and a notarized copy of parents' or students' previous year Federal Income Tax Return (1040, 1040A).

Note: The determination of which tax return should be submitted is based on students' dependency status. In order to be considered as an independent student, all questions in items #11, 12, 13 must be able to be answered in the negative.

The *DEADLINE* for submission of the FAF and all supporting documents is *April 15*.

Below are brief descriptions of the types of financial assistance available at Fitchburg State College. For additional information, please contact the Financial Aid Office to request a copy of the Financial Aid Handbook.

Gift-Aid

Gift Aid is usually in the form of grants or scholarships and is called "gift-aid" because it does not have to be repaid or worked for.

The following forms of "gift-aid" are available at Fitchburg State College:

BASIC EDUCATIONAL OPPORTUNITY GRANT (BEOG)

The Basic Educational Opportunity Grant program is a federally sponsored entitlement program designed to assist students who have exceptional need. Grants may be as high as $1800 during an academic year (June 1 to June 30). A BEOG must be reapplied for prior to every year of undergraduate study and cannot be awarded for more than four full-time years of study.

The BEOG is considered to be the "floor" or base of a financial aid package. In many cases, it will be combined with aid from other sources. All students applying for financial aid are required to apply for the BEOG.

MASSACHUSETTS STATE SCHOLARSHIP PROGRAMS

The Massachusetts Board of Higher Education administers seven state scholarship programs for Massachusetts residents. The Massachusetts Information and Instruction leaflet contains all information as well as specific application instructions. The leaflet is contained with the Massachusetts Financial Aid Form (MFAF), available at a college or university financial aid office or a high school guidance office.

All Massachusetts students are required to apply for the Massachusetts General State Scholarship. The maximum award for a public institution in Massachusetts is $500 in an academic year. Students are notified of this award directly from the Board of Higher Education, Boston, Massachusetts. Awards are based on financial need. Students attending Fitchburg State College or planning to attend may also apply for the following State Scholarship Programs:

*Special Education
Fire, Police, Corrections
Honor

*Students at Fitchburg State College must apply directly to the College for the Special Education Scholarship in this booklet.

OTHER STATE'S GRANTS

Students from Connecticut, Rhode Island, Pennsylvania, Vermont and New Jersey may be eligible to receive a State Scholarship from their respective state. Each scholarship program has varying guidelines and deadlines, therefore, students are urged to contact the state scholarship program in their state for further information.

SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANT

The Supplemental Educational Opportunity Grant is awarded to only those students with extreme financial need who would otherwise be unable to attend a post-secondary institution. The grants may range between $200 and $1500 per year, but cannot exceed $4000 over the course of a four year program of study.

However, awards are limited by the amount the college receives from the government and they must be matched dollar for dollar from another source of aid. This is a federally funded program administered by the College.

NURSING SCHOLARSHIP PROGRAM

The Nursing Student Scholarship Program is for students pursuing an education in the field of Nursing and who are in need of financial assistance. Scholarships may range between $200 and $1500 per academic year, contingent upon funding by the federal government. The Nursing Scholarship is administered by the College.

FITCHBURG STATE COLLEGE SCHOLARSHIPS

In addition to the above federal and state programs, Fitchburg State College has a number of scholarships of its own. They are awarded at various times throughout the year and are publicized via bulletin boards and other campus media. Additional information may be obtained from the Financial Aid Office. Applications are available after the first of the year in the Financial Aid Office. Deadline for submission of applications for the following scholarships is 1 March.

The following scholarships are administered directly by the College Scholarship Committee and require that a FAF be on file to assist in the evaluation of need.

The M. Lillian Smith Scholarship ($100.00)—To be awarded to a student pursuing a course of study in Education.

"Buddy McMurray Good Fellowship Award" will be awarded to a student whose contribution to the College is positive, salutary, and inspirational of the goals for which they entered Fitchburg State College.

Hammond Band Scholarship ($100.00)—Available to the full-time undergraduate student chosen as the outstanding member of the Fitchburg State College Band.

LeBlond-O'Sullivan Memorial ($100.00)—Available to full-time juniors or seniors with financial need and a record of service to the College.

Parking Scholarships ($300.00)—Made available from fines collected for illegal parking on campus to full-time students who have completed at least one semester and have at least one year remaining at the College.

Performing Artists and Athletes ($300.00)—This scholarship alternates yearly between outstanding performing artists and athletes who are full-time undergraduate students.

Special Education ($100.00 to $300.00)—Available to full-time day students who are special education majors and graduates of a Massachusetts high school.

Carl T. Witherell ($300.00)—Available to full-time undergraduate students who are industrial arts majors, preferably members of Epsilon Pi Tau.

Alumni Scholarships ($100.00)—Available to currently enrolled students with financial need who are in good academic standing. Apply through the Fitchburg State College Alumni Association.

Fitchburg Business and Professional Women's Club ($300.00)—Available to full-time women students commuting from Fitchburg, Ashby, Ashburnham, Lunenburg, Townsend or Westminster, who have completed one year satisfactorily.

Grace Gummo Nursing (amounts vary)—Available to deserving students in the nursing program.

Leominster Business and Professional Women's Club ($400.00)—Available to women residents of Leominster.

Student Government Association (amounts vary)—Available to sophomores, juniors or seniors with a 2.2 cumulative average and a record of leadership. Apply to the Student Government Association.

The Mattie N. Antila Poetry Award ($100.00)—This is an annual prize awarded to a student at Fitchburg State College for a poem. The award is made possible from Fauri and Signe Sipila in memory of Signe's parents, Matti N. and Fanny P. Antila.

ARMY ROTC SCHOLARSHIP PROGRAM

The Army ROTC scholarship is designed to offer financial assistance to outstanding young people in the four-year Army ROTC program who are interested in the Army as a career. The ROTC Scholarship Program has approximately 12% of its cadets on full scholarship, which covers tuition, lab fees, books, and $110 per month for 10 months a year. Three, two, and one year scholarships are also available for enrolled students taking ROTC. The four-year scholarships are normally awarded prior to the start of the student's first year.

Recipients of Army ROTC scholarships are required to serve on active duty in the Army for a period of four years, followed by a period of two years in the inactive Reserves. Scholarship recipients are expected to enter active duty immediately following graduation; unless the student has been accepted to graduate school, for which educational delays of up to two years are available.

Self-Help

Self-Help is in the form of loans and work. The following forms of self-help are available at Fitchburg State College.

NATIONAL DIRECT STUDENT LOAN PROGRAM

The National Direct Student Loan is a long term, low cost loan, designed for educational purposes. Eligible undergraduate students may borrow up to $2500 during the first two years, but

not more than $5000 during the undergraduate years. Awards are contingent upon available funds and number of applicants.

The interest rate of 3% is charged on the unpaid balance of the loan. Students will be required to make minimum payments of $90 per quarter depending upon the total amount of the loan. Payments and interest commence nine months after graduation or termination of student status. All terms of the National Direct Student Loan are stated on the Promissory Note and Truth-In-Lending Statement, copies of which will be provided to those requesting such information, as well as a sample loan repayment schedule. Provisions are available for deferments, postponements and/or cancellations for some specialized areas.

NURSING STUDENT LOAN PROGRAM

The Nursing Student Loan Program is designed for those students in need of financial assistance to further their education in the field of Nursing. Loans may range between $200 and $1500 per academic year and an interest rate of 3% is charged on the unpaid balance of the loan.

Payments and interest charges do not begin until nine months after graduation or termination of student service. Visit the Financial Aid Office for more information governing repayment, deferment and cancellations of Nursing Loans and request the booklet "Nursing Student Loans."

Loans are limited by the amount of money the College receives from the Federal Government.

GUARANTEED STUDENT LOAN PROGRAM

The Massachusetts Higher Education Assistance Corporation enables students to apply to local banks and lending institutions for education loans to help meet their educational costs. While the student attends college the government pays the 7% interest rate on the loan. The Financial Aid Office has a listing of all participating lenders in Massachusetts.

EMERGENCY LOANS

Small loans of up to $75 for unexpected non-college bills may be obtained by students from the Office of the Vice President for Student Services. The loans must be repaid within sixty days. The student must have collateral or show an ability to repay the loan within sixty days or by the end of the semester, whichever comes first. The student should visit the Office of the Vice President for Student Services to obtain additional information on this program.

COLLEGE WORK STUDY PROGRAM

The College Work Study Program is a federally funded program providing an opportunity for part-time employment on campus for students with financial need. Students with particular skills or talents are requested to enter that information on the FSC application for financial aid. The work assignments are in most cases ten hours a week. Students will be paid directly for the hours worked on a weekly basis.

FITCHBURG STATE COLLEGE EMPLOYMENT

In addition to the federal program, the College offers part-time employment on campus to its students. These positions are not open to students who have had their financial needs met by the other programs mentioned above. Students are paid variable rates depending upon the position. Available jobs are posted and students are required to apply directly to the office advertising for help.

OFF-CAMPUS EMPLOYMENT CENTER

The College Counseling Center and The College Counseling and Career Center has established a new service to help meet the needs of students seeking part-time employment off-campus. This Office, located on the third floor of Edgerly Hall, has canvassed the community and organized a substantial listing of part-time employment openings in the area. These include such positions as babysitting, yard work, construction, caring for the elderly, tutoring, repair work, and a variety of other odd jobs. The hours are often flexible and can be geared to your academic commitments.

ACADEMIC POLICIES

DEGREES

Fitchburg State College is empowered by the Board of Trustees of the Massachusetts State College System to offer the degrees of Bachelor of Arts, Bachelor of Science, Bachelor of Science in Education, and Master in Education.

Bachelor of Arts. The degree of Bachelor of Arts is offered in the following fields: Biology, Chemistry, Computer Science, English, Geography, History, Mathematics, Physics, Psychology, Sociology.

Bachelor of Science. The degree of Bachelor of Science is offered in the following fields: Biology, Business Administration, Chemistry, Communications/Media, Computer Science, Geography, History, Human Services, Industrial Science, Mathematics, Medical Technology, Nursing, Physics, Psychology, Sociology.

Bachelor of Science in Education. The degree of Bachelor of Science in Education is offered in the following fields: Biology, Chemistry, Early Childhood, Elementary, English, Geography, History, Industrial Arts, Mathematics, Special Education.

Master of Education. The degree of Master of Education is offered in the following areas of specialization: Counseling, Arts in Education, Elementary Education, Industrial Education, Occupational Education, Reading, School Leadership, Science Education, Secondary Education, Special Education. Further information regarding these programs may be obtained through the Office of Graduate and Continuing Education.

Master of Arts in Teaching. The degree of Master of Arts in Teaching is offered in English. Further information regarding this program may be obtained through the Office of Graduate and Continuing Education.

GRADUATION REQUIREMENTS

In order to graduate from Fitchburg State College with a baccalaureate degree, a student must have successfully completed both the required courses as well as the total number of semester hours necessary for his major program. He must have attained at least a 2.0 cumulative average in the total program as well as in his major field. Before graduation the student shall have completed a minimum of 30 semester hours at the college. All students at the College must file an application for graduation with the Registrar not later than February 1 of the year of graduation.

GENERAL EDUCATION

It is the intent of Fitchburg State College that all students be generally and liberally educated. To this end each student is required to take a distribution of courses in the various disciplines. All baccalaureate candidates at Fitchburg State College are required to take a minimum of 60 semester hours in general education courses. In addition to the required courses in English Composition, Speech, and Health and Fitness, the credits are distributed among mathematics and the sciences, the social sciences and the humanities. The humanities and social sciences each have a 15 semester-hour requirement, while the math/science area is satisfied by taking four courses distributed among the disciplines. No more than eight semester hours of one discipline may be used to satisfy any of the three requirements.

The *humanities* requirement may be fulfilled by any course in art, music, literature, speech, foreign languages or philosophy. Similarly, the *social sciences* requirement may be fulfilled by taking courses in any of the following disciplines: history, economics, geography, government, political science, psychology, sociology, or anthropology. Finally, the *math/science* distributional requirement may be satisfied by taking courses in mathematics, biology, chemistry, computer science, physics, physical science, earth science, astronomy, meteorology, or geology. A professional or teacher education course will not satisfy a general education requirement. Physical education courses may be used as electives for general education.

CONSTITUTIONAL REQUIREMENT

According to state law, graduates of the College must demonstrate a knowledge of the United States Constitution and the Constitution of Massachusetts. Students may meet these requirements by passing a written examination administered by the Department of Social Sciences. A pamphlet giving further information about the examination and a study guide may be obtained from the college bookstore. Students who successfully complete PS 100, PS 200, PS 220, HI 210 or HI 220 are excused from the examination.

HEALTH AND FITNESS REQUIREMENT

In order to meet the Health and Fitness requirement, students may select one of the following options:

1. One course from Option I;
2. Three courses from Option II; or
3. Two courses from Option II and one from Option III.

Option I includes Health and Fitness, Exercise and Sport Science, Scientific Foundations of Athletic Training and Conditioning, and Jogging: Theory and Practice.

Option II includes Human Constitutional Morphology, Introduction to Kinesiology, Consumer Health, Motor Learning and Motor Performance, Diet, Exercise and Weight Control, Figure Control through Weight Training. Orientation to Physical Activity, Weight Training for Athletes, First Aid and Safety, Jogging, Behavioral Concepts of Sports, Physical Education for the Handicapped, Techniques of Road Racing, Physical Education: An Overview.

Option III includes Physical Education: Gymnastics, Volleyball, Tennis, Badminton, Judo, Karate, Cross Country Skiing, Skiing, Backpacking, Mountain Hiking, Canoeing, Folk Dance, Aerobics, Rhythmics, Physical Conditioning, Soccer, Basketball, Advanced Basketball, Softball, Advanced Tennis, Slimnastics, Advanced Volleyball, Recreational Sports, Downhill Skiing, Beginning Tumbling, Horseback Riding, Bicycle Touring and Modern Jazz.

CREDIT DEFINITION

The College subscribes to the "Carnegie Unit" in determining the value of a semester hour of credit. A student "owes" a course a minimum of 45 hours of class experience, outside work and preparation for one semester hour credit.

GRADING SYSTEM

The grades given academic work at Fitchburg State College run from 0 through 4 with .5 intervals from 1 to 4 (0, 1, 1.5, 2, 2.5, 3, 3.5, 4). Zero indicates academic failure for a course, 1 or 1.5 is poor but passing, 2 or 2.5 is average, 3 or 3.5 is good and 4 is excellent. Quality points are determined by the following process: The number of semester hours in each course is first multiplied by the grade. Thus a student who takes five, three semester hour courses and receives two grades of 3 (18), two grades of 2 (12) and a grade of 1.5 (4.5) has a total of 34.5 points to be divided by the total of semester hours attempted (15) and attains a quality point average of 2.3 for the semester. An average of 3.2 or better qualifies a student for the Dean's List.

IN is recorded for incomplete, W for withdrawal, and CR for credit.

INCOMPLETE GRADES

The grade of Incomplete (IN) is given only if at least 80% of the course work has been completed at the time of discontinuance due to illness or similar disability. Incomplete grades must be made up within four weeks after the opening of the semester following that in which the student received the IN grade. The "IN" becomes an "F" grade if the student fails to make up the work and fails to take the Final Examination within the prescribed time limit. Incomplete grades do not affect a student's dismissal or retention by the college.

MAKE-UP OF FAILING GRADES

If a student fails a course, his grade for that course is zero. It will be crossed out when the course is retaken and passed. In this manner a student may raise his/her cumulative average. A student may not retake a course in which a grade of "D" was given and have the second grade counted in his average.

GOOD ACADEMIC STANDING

A student is in good academic standing if by the end of both the first semester of the freshman year and through the first semester of the sophomore year the student has obtained a cumulative academic average of 1.75 and maintains a 2.00 cumulative average thereafter. A student who is not in good academic standing is either on academic probation or dismissed from the college. The academic probation schedule may be found under Academic Probation and Dismissal.

A student must have an overall cumulative average of 2.00 for graduation, as well as an average of 2.00 in his major courses.

ACADEMIC ADVISING

Academic and general advice is available to all undergraduates throughout their enrollment at Fitchburg State College. Through the department chairman and the undergraduate Dean, each student is assigned an academic advisor knowledgeable in the student's major academic subject area.

Each student is encouraged to consult the academic advisor at any time during the semester regarding any problems encountered. Individual instructors, department chairmen and the undergraduate Dean are also available for academic counseling throughout the semester.

ACADEMIC PROBATION AND DISMISSAL

The student's quality point ratio shall be cumulative, semester by semester.

End of Semester	Year	Probation	Dismissal
1	Freshman	1.00-1.50	Below 1.00
2	Freshman	1.50-1.74	Below 1.50
3	Sophomore	1.50-1.74	Below 1.50
4	Sophomore	1.75-1.99	Below 1.75
5	Junior	1.75-1.99	Below 1.75
6	Junior	No Probation	Below 2.00
7	Senior	No Probation	Below 2.00
8	Senior	No Probation	Below 2.00

Under academic dismissal a student must remain away from the College for a minimum of two semesters. He should raise his cumulative average by retaking courses which he failed, thereby removing the failure from his record.

Students must consult with their academic advisor before registering for courses. The academic advisor will then sign and forward the registration materials to the Registrar of the College for processing. All faculty at the College are available to students for three hours a week or by appointment. Their office hours are posted in their departments and are also available in the Office of the Academic Dean.

Faculty advisors are allowed to approve student schedules of between 12 and 18 Semester Hours (S.H.) Students wishing to enroll for courses outside of these limits must obtain the permission of their academic advisor and the Undergraduate Dean. All students will conform to the curriculum requirements at the time of their matriculation in the College. However, the College reserves the right to alter the curriculum requirements where it becomes necessary to meet statutory, educational, or professional requisites or to assure quality educational programs.

ADVISING CENTER

In addition to the above, the college provides an Advising Center which is open four days a week during regular college hours for academic advising and counseling of students, with particular emphasis on students who are undecided about a major, handicapped students, students on probation and students in the bottom 10 percent of their class standings.

Although the Center does not provide advice for specific majors since this role is best filled by the individual departments, the Center will assist students who feel they are not receiving the help they need or who need assistance in emergency situations when departmental services are not available.

CLEP AND ADVANCED PLACEMENT EXAMINATION

The primary goal of the College Level Examination Program (CLEP) is to make it possible for an individual to earn college credit on the basis of examinations. CLEP is a program of the College Entrance Examination Board. The CLEP examinations are very useful for traditional and regularly enrolled students, but they are especially valuable for people whose learning experiences have taken place primarily outside college classrooms.

CLEP Policy

General Policy: Appropriate credit can be granted on the basis of general and/or individual Subject Examination results. However, a student may not be awarded more than 60 college credits through the CLEP program.

Specific Policies:

1. Credit for, or waiver of courses will be recorded only for students who have matriculated at Fitchburg State College.

2. Credit earned or requirements waived will be recorded by the Registrar upon receipt of an official score report from the College Entrance Examination Board. In recording results from Examinations for which an essay or practical examination is required, approval from the major department will be necessary. (Approval = Pass/Fail).

3. Credit for the General, or for any of the Subject Examinations will not be granted if the student has completed satisfactorily, one or more of the courses listed as equivalent courses to or having similar content to a CLEP Examination.

4. In order to receive transfer credit obtained under CLEP from another institution, the applicant must have a score which is equal to or greater than that score which is the required minimum for credit at Fitchburg State College.

5. The minimum score recommended for each CLEP Examination is based upon the Median (50%) score obtained by students in the normative group.

6. The credit award for each CLEP Examination is based upon the candidate attaining a score equivalent to or greater than the scores listed. The median scores, equivalent courses, credit hours, and policies specific to the General Examination and Subject Examinations are available in the Career Planning and Placement Office.

Evaluation:

1. This policy shall be periodically evaluated to determine its appropriateness in terms of the education objectives of Fitchburg State College.

2. The Subject Examinations of CLEP are constantly being expanded to include additional subject areas. As soon as score interpretation material is available for evaluation, additional CLEP Examinations will be added. The granting of credit for these new Subject Exams should follow the general policy suggested in this Policy Statement.

Advanced Placement Examination

Students who score 4 or 5 on the Advanced Placement Examination will receive advanced placement in the area tested but no credit will be awarded.

Exemption from English Composition

Students scoring 600 on the SAT Verbal Test of the CEEB English Achievement Test, as well as those who have done consistently well in high school English, are advised to take a CLEP exam for possible exemption from and possible credit for English Composition I and II.

COLLEGE ACADEMIC PROGRAM SHARING: CAPS

CAPS allows students at Fitchburg State College to attend another of the Massachusetts State Colleges. The purpose of the program is to allow students to enroll in up to 30 semester hours of courses in another state college without going through formal registration procedures.

CAPS affords students in the Massachusetts State College System an opportunity to enjoy a broad educational experience with a wide range of faculty, programs, and facilities. The CAPS program is not open to freshmen.

ACADEMIC PROCEDURES

ATTENDANCE

Class attendance is a matter for instructor and student to consider. It is the prerogative of the instructor to place a value on class attendance and it is the instructor's duty to inform students of these views early in the semester and to state the policy in the course syllabus.

It is the responsibility of each instructor to maintain a record of attendance for students in classes. Should the need arise for verification of student's attendance, direct reference will be made to the faculty members involved.

Where validation of an absence is available through any source, it is recommended that the student show the validation to all instructors concerned and then place it on file in the Registrar's office.

It is the responsibility of each student to consult with his/her professors prior to an absence or immediately upon his/her return.

AUDITING COURSES

Students are permitted to audit courses, but must have the approval of the instructor. A record of audited courses does not appear on the student's official transcript.

CERTIFICATION PROCEDURES

All senior education majors are responsible for checking graduation requirements and certification procedures at the beginning of their senior year. Certification procedures will be discussed at scheduled meetings early in the semester.

CHANGING COURSES

During the first and second week of each semester students are allowed to change their classes through the use of an Add/Drop form and with appropriate approval. A student must have the approval of the course instructor in order to add or drop a course during this period and must have the approval of the Undergraduate Dean and the academic advisor if this change in schedule results in less than 12 or more than 18 semester hours of course work. Add/Drop forms are available from the Office of the Registrar.

CHANGING MAJOR

Any student who desires to change his major course of study should obtain the appropriate form from the Office of the Registrar, and secure the signatures of the chairmen of both the department to be entered and the department being left.

Department chairmen will offer advice and assistance and will assign the student a new academic advisor. A student must then satisfy the requirements of the new major program according to the catalogue of the year of matriculation.

WITHDRAWAL FROM A COURSE

Students may withdraw from a course during the first two weeks of the semester without penalty by notifying the instructor and the Registrar, using the Add/Drop form obtainable from the Registrar's Office. Between the end of the second and the end of the eighth

week of classes, students may withdraw by obtaining the permission of the instructor and faculty advisor. Students who withdraw during this period will receive a grade of "W." Any student who fails to follow these procedures will automatically receive an "F" (grade "0") for the course. A student who withdraws from a course after the eighth week of a semester will be assigned an "F" grade unless extenuating circumstances warrant further consideration.

WITHDRAWAL FROM COLLEGE

Students who leave the College, either during a semester or between semesters must complete a WITHDRAWAL FORM which may be secured at the Associate Dean of Students' Office. Students who withdraw within the first eight weeks of the semester will receive "W" in each course. Students who leave the College during a semester and do not "Officially Withdraw" will receive "F" grades in all their courses.

RETURN AFTER WITHDRAWAL

A student who withdraws from the College in good standing without completing his baccalaureate studies may return to the College upon request to the Registrar. To insure his return at the time desired, the student should make such a request to the Registrar before May 1 for the Fall semester or before December 1 for the Spring semester.

In determining "good standing" the College will consider academic and social records (College Judicial Board) as well as financial records of the applicant student.

FULL TIME STUDENT

A full time student must take 12 or more semester hours of college credit. A student taking less than 12 semester hours is in danger of losing veterans' benefits, some scholarships and participation in varsity sports. A student who is not registered for 12 semester hours is not eligible for the Dean's List of the College.

TRANSCRIPTS

Transcripts are available from the Office of the Registrar and will be sent at the written request of a student for a charge of one dollar.

STYLE MANUAL

The Modern Language Style Manual for writing is the official style manual for Fitchburg State College unless modified by individual departments for needs particular to their discipline.

PRACTICUM

Supervised practica in the role or subject area covered by the degree sought. Customarily part of a sequence in a degree program. (Such activities are proscribed by Massachusetts Law in the field of education and special education.) Can involve earning from one to twelve academic credits in a given semester.

SCREENING POLICIES FOR STUDENT TEACHING

1. Positive recommendation of a majority of the faculty members in the area of the major and/or specialization.

2. A demonstrated effectiveness in oral and written communication as evidenced by use of currently acceptable levels of English.

3. The successful completion of the tuberculin test.

4. The Teacher Education Council requires that each candidate for student teaching possess a 2.00 cumulative index and a 2.50 index in the major field of study, as each department defines "major field." No incomplete in any course is allowed. No probationary status is allowed. No unresolved failure is permitted in a candidate's major field.

5. A student convicted of a felony as defined and identified by the courts of any state is automatically ineligible for a teacher education program.

6. All transfer students are required to take 12 semester hours from at least three different professors within their respective departments prior to student teaching.

Appeals to any of the above should be directed to the secretary of the Teacher Education Council.

NOTE: An incomplete or failure in student teaching necessitates the repetition of the course. Each student must furnish transportation to the teaching assignments.

HONORS

THE PRESIDENT'S LIST

The President's List honors students for consistently high academic achievement. The student is named to the President's List when he or she has achieved a semester average of 3.75 or higher for three successive semesters. However, should the student drop below 3.75 for a semester, even though the cumulative average remains 3.75 or higher based upon previous semesters' achievement, the student is ineligible for the President's List.

DEAN'S LIST

Recognition of academic excellence is noted by the Dean's List and the notation of Summa Cum Laude, Magna Cum Laude and Cum Laude at graduation. A student is placed on the Dean's List for the semester if an average grade of 3.20 or better is attained, and the student is attending the college full time.

Graduation honors are noted for recognition of an outstanding cumulative average. A student graduates with highest honor, Summa Cum Laude, if the cumulative academic average is 3.80 or higher. Similarly a student will be graduated with high honor, Magna Cum Laude, if the cumulative average is 3.50 or higher, and is graduated with honor, Cum Laude, with an average of 3.20 or better.

OTHERS

Seniors at the College who have high academic standing are eligible to apply for a Fulbright Fellowship for Graduate Study Abroad or a Danforth Fellowship which supports potential college teachers in pursuing their education. The Fulbright advisor contacts eligible students during the spring semester of their junior year. Seniors are also eligible to be selected for *Who's Who Among College and University Students* and *Outstanding Young Men of America*.

INTERNSHIP PROGRAMS

INTERNSHIP PROGRAM

Intensive training program involving work-study or field work. Supervised by professor or staff and on-site work coordinator. (Such activities may involve newspaper work, computer programming, staff work in human services, etc.) Can involve earning from one to fifteen credits in a semester.

Academic credit shall be awarded only for work would earn credit in an unpaid situation. Students may be permitted by the Department Chair to receive academic credit for work which also earns financial payment.

LEGAL INTERNSHIP

The Legal Internship Program is a one semester 12 credit hour practicum designed to introduce students to basic legal concepts and research tools. A legal intern under faculty and attorney supervision in a law office deals at first hand with the problems of clients. Attention is given to fact-investigation and legal research, preparation of motions, pleadings, trial memoranda and appellate briefs. The internship entails a minimum of 24 hours of work per week in the office and at least six hours of preparation. The offices handle criminal cases and a wide range of civil matters including consumer, administrative, family, welfare, matrimonial and civil rights cases. Enrollment is limited.

FIELD WORK IN THE HUMAN SERVICES

The Human Services program coordinates supervised field work experience with class work. The field work involves working in an agency under professional supervision either two days a week throughout the academic year or 30 hours a week for a full semester. In addition, all students in the class meet to share experiences and learn about other agencies.

Students have been placed in probation offices, mental health facilities, family and children's agencies, hospitals, nursing homes, special needs centers, welfare offices, recreational settings, etc. These experiences should strengthen the position of students when applying for a job, give them a more realistic basis for choosing a career and give their potential employers an opportunity to screen students as job candidates.

INTEGRATED CREATIVE ARTS TEACHER EDUCATION PROGRAM

This is a full-semester experience which includes five weeks of classroom instruction and training (creative work in visual arts, language arts, movement, music, and integrating art forms). Subsequently, students will be placed in field stations for classroom experiences for the remainder of the semester. These activities will involve assisting teacher-specialists in one or more of the art form areas, and the development and implementation of programs for the specific classroom and its pupils to foster the pupils' personal expression through creation in the arts.

Intermittent seminars will be held one day a week at the College for the purposes of workshop experiences and problem solving. Students are expected to be present in the schools on a full-time basis ordinarily throughout the semester. They will be visited and evaluated regularly by college faculty as well as by cooperating teacher-specialists in the schools.

INTEGRATED PROFESSIONAL PROGRAM

The Integrated Professional Program in the Department of Special Education is a program that moves the preparation of special educators from a college-based program to elementary schools in the community. In this setting, students have theoretical, observational, and participatory experiences. When a concept or technique is introduced academically, the students have the opportunity to observe a demonstration in the classroom and to engage in a teaching practice.

The College faculty provide guidance, immediate feedback and further demonstrations. The cooperating practitioner also participates in this experience with the student. The students raise questions based on their academic and participatory experiences and share ideas, problems and learning with other professionals.

This program prepares teachers to meet the educational/social needs of students who manifest learning/behavior problems in the regular elementary classroom environment.

The Integrated Program is a one semester—15 week course/practicum. Students spend three and one half (3½) hours, five days a week for twelve weeks working with children in a regular elementary classroom.

Course Content:

1. Reading
2. Language Arts
3. Identification of Learning Problems
4. Behavior Managment
5. Methods and Planning
6. Curriculum
7. Communication Skills

ENGLISH DEPARTMENT INTERNSHIP

The English Department, through its internship program, offers an opportunity for seniors and second-semester juniors to explore a profession for one full semester of work and credit. English majors can experience a wide range of professional activity in fields such as radio, television, journalism, personnel work, library functions (school, public, or technical), public relations, law, government, human services, and technical publications.

New internship positions are identified each semester. The program has provided an unusually high level of job-entry success for those participating. The internship enables students to apply theoretical knowledge and laboratory-developed skills in an actual professional setting.

PRACTICUM IN COMMUNICATIONS/MEDIA

During the Spring semester of the Senior year, students, either individually or in teams, are placed with a business, industry, health service, governmental agency, educational institution or public organization to solve comprehensive communication problems. This experience represents the culmination activity in the Communications/Media major and provides each student with an opportunity to apply the knowledge and skills acquired during his/her course of study.

The practicum involves working under the professional supervision of the agency as well as the Department's faculty. Since the Practicum requires commitment for the entire semester, students should expect to spend at least 15 full-time weeks with the agency in which they are interning. In addition, a seminar is held one day and/or evening each month at the College for the purpose of sharing ideas and solving problems.

STUDENT TEACHING ABROAD

Student teaching and academic programs overseas, Puerto Rican Student Exchange and International Science Teacher Education programs are some of the opportunities available to students in the Massachusetts State College System through the Center for International Education. Student teachers interested in enriching their cultural backgrounds may wish to apply to student teach in a fully accredited American-sponsored school overseas. The teaching period is either 8 or 16 weeks, preferably the latter, in Europe, Latin America, the Middle East, Africa, or the Far East. The Puerto Rican Student Exchange Program established by the Center and the University of Puerto Rico is open to students proficient in Spanish. An equal number of Massachusetts State College students and University of Puerto Rico students are selected for this very popular exchange program which lasts either a semester or a year.

STUDY ABROAD

Through the Center for International Education of the Massachusetts State College System, students at Fitchburg State College may study abroad for a semester or a full academic year in England, France, or Spain at the following institutions:

Trent Polytechnic, Nottingham, England;
Universite de Caen, Normandie, France;
Columbus International College, Seville, Spain.

Interested students should consult with their academic advisors and with the international advisor on campus.

INDEPENDENT STUDY

A student may pursue Independent Study under the supervision of a faculty member. Only 3 semester hours of Independent Study may be attempted in one semester. If a student needs to take more than 3 semester hours of Independent Study, permission must be received from the Undergraduate Dean.

INTERNSHIPS IN POLITICAL SCIENCE

Off-campus opportunities, carrying appropriate academic credit, are available in local, state, and federal government offices and with political campaigns. Students gain an insight into the workings of government administration and politics under the supervision of a political science instructor.

Internships are also available in several regional law offices for those persons interested in para-legal work. These internships prepare students for positions in law offices, public administration, and other human service work. Students normally take this legal internship in their junior or senior year. Credit is for either six or twelve semester hours depending upon arrangements with the Social Science Department.

ACADEMIC SERVICES

LIBRARY HOURS
Monday thru Thursday
8:00 a.m.-11:00 p.m.
Friday
8:00 a.m.-5:00 p.m.
Saturday
10:00 a.m.-5:00 p.m.
Sunday
1:00 p.m.-10:00 p.m.
Vacation, exam period, summer schedule will be posted

THE COLLEGE LIBRARY

The Fitchburg State College Library, located in the James J. Hammond Building, provides study table, study carrel, and lounge seating on three levels for 1,350 students. It is a comprehensive information center where source materials are available in a variety of formats. The holdings, which comprise curriculum-related subjects and general student-interest materials, include a circulating book collection of 150,000 volumes; 2022 periodical titles in microfilm and print form; abstract and indexing services; the Resources in Education Collection (ERIC), a comprehensive education library retrieval system on Microfiche; and a large pamphlet file. The Fitchburg State College Library also holds an 8,500 volume reference collection; card catalog access to audio-visual information in 10 formats; a children's literature collection; and a record collection of classical, folk, jazz, popular music, and the spoken word for which stereo headsets may be obtained at the Circulation Desk for the listening stations located throughout the library.

IMAGE SYSTEMS DEPARTMENT

Specialized Image Systems facilities on the campus include a full-color television studio, two media production and equipment checkout laboratories, an autotutorial laboratory, photographic dark rooms, audio recording booths, a 4,000 print film library, and several lecture and mediated presentation areas. The Image Systems Department staff provides consultation and production assistance in television, photography, cinematography, graphics and media equipment operation. Multi-media design and production also represent a large part of the department's activities. Members of the college community are urged to use Image Systems services and should visit their main office in the Conlon Industrial and Fine Arts Building.

LEARNING RESOURCES CENTER

The Learning Resources Center (LRC) is located on the third floor of the Hammond Building. The College recognizes that the learning conditions required for each student may be different due to the uniqueness of individual learning styles. Thus, the Learning Resources Center attempts to provide conditions which allow human and non-human resources to develop the maximum capabilities of each learner.

The LRC strives to:

1. Acquire, store, and distribute instructional software including films, computer programs, filmstrips, audio tapes, video tapes, kits and other higher education curriculum materials.
2. Design learning spaces, appropriate to independent study, small group interaction, human and non-human tutoring, and large group activities.
3. Provide assistance to those desiring to strengthen their reading, writing, math, speaking and study skills.
4. Create a research and development capability enabling faculty and students to evaluate instructional strategies and materials, to sharpen teaching behavior, to investigate the teaching/learning process and to develop observation skills.
5. Provide for the needs and demands of the undergraduate skills centers: Housed in the LRC are the Reading Center, Writing Center, Mathematics Center and the Study Skills Center.

COLLEGE COMPUTER CENTER

The Fitchburg State College Computer Center is a service department of the College. Facilities are provided to service the administrative, educational and research needs of the campus. The principal unit of equipment in the Center at the present time is a Control Data Computer CDC System Installation 1700 terminal which is connected to a Boston-based CDC Cyber-72 computer. There are nine interactive terminals that are primarily for academic use by students and faculty. The terminals are of two types: CRT (Cathode Ray Terminals), terminals with no hard copy, and Printer types, those that do have hard copy for reference. These terminals are located in a pleasant setting on the third floor of the library.

Computer usage ranges from the computation of assigned classroom problems to the support of special projects of administrators and faculty. Many students begin to use the computer early in their programs of study and some continue to do so into graduate work. Opportunities to pursue courses of study oriented toward computer science are available and are described elsewhere in this catalog.

In addition to the central computing facility, the Computer Science Department has available PDP-11 and PDP-8 mini-computers for hands-on use and numerous micro-computers for laboratory use. These systems allow the student to work on design experiments which would be impossible or impractical on the large central computers.

CENTER FOR STUDIES IN HUMAN DEVELOPMENT

The Center for Studies in Human Development is an interdisciplinary environment in which students and faculty interested in the study of human development can cooperate in order to initiate research, develop programs and teaching materials, and share knowledge. The departments of Behavioral Sciences, ECES Education, Special Education, and Communication/Media participate in the planning and advising functions of the Center.

Systematic investigations of issues in human development, seminars, workshops, mini-courses, and informal discussions which are directed by the Center staff involve beginning and advanced students, faculty, community professionals, and other area adults. The Center, located in McKay Campus School, provides a base for the above activities, including the Practicum in Developmental Psychology (PY482), and is a repository for audio-visual materials concerned with human development.

AID PROGRAM (ALTERNATIVES FOR INDIVIDUAL DEVELOPMENT)

The AID program is designated for all students who possess the motivation and academic potential to receive a college education, but have been denied this access because of social, economic, or educational disadvantages. Paramount concerns are recruitment, education, and graduation of these students.

Another function of the program is to provide educational opportunities for those who were graduated from high school some years ago. Counseling and support groups are also available for these students.

Through the recommendation of teachers, counselors or other responsible persons and the recruitment process, students are considered for admission. Appropriate test evaluations and interviews are utilized to determine an admissions decision.

Those students accepted in the program will receive supportive services in developmental reading, English and writing skills, mathematics, study skills and necessary tutoring in academic subjects. Also included in the program are personal and academic counseling, peer counseling, assistance in locating financial resources, and in developing the sophistication and interpersonal skills necessary to succeed in college and life.

READING CENTER

Programs offered at the Reading Center are designed to meet the individual needs of all students. Enrichment programs are available for slow readers with good comprehension who want to increase their speeds. Developmental programs, concentrating on comprehension skills, help students understand what they read. Additionally, all students are taught how to adjust their rates of reading to meet their particular purposes. Students may enroll in reading courses any time and select hours convenient to them. One credit is earned upon completion of an individually designed reading program. There is no charge for these programs.

SPECIAL SKILLS CENTER

The College maintains a Special Skills Center where help is readily available for students who have difficulties in reading skills, writing, and computational areas. The special skills lab provides individualized assistance to students with needs ranging from mild to more severe exceptionalities. Special learing programs can be devised in some areas and this service is open without cost to all students in the College.

It is the policy of the Board of Trustees that students admitted to State Colleges who suffer serious deficiencies in reading, writing and mathematics be required as a condition of attendance to avail themselves of remedial courses and other help as prescribed.

The Center is located in the Learning Resource Center of the Library and is open from 8:30 a.m. to 4:30 p.m. Monday through Friday.

WRITING SKILLS CENTER

The English Department operates a *Writing Skills Center* where students may get help at any time for their writing problems. Students who have problems in English Composition classes are referred to the Center for additional help. Any instructor in the college may refer a student to the Center, and any student who desires assistance may voluntarily apply to the Center. A wide variety of programs and instructional materials are offered to students by the English Department's Writing Skills Center.

DIVISION OF GRADUATE AND CONTINUING EDUCATION

The Division of Graduate and Continuing Education offers graduate and undergraduate degree programs in keeping with its prime purpose of providing opportunities for professional and scholarly advancement for the people of central New England.

The Division offers a Master of Education Degree, which permits specialization in ten vocational and educational areas: Special Education, Elementary Education, Secondary Education, Reading, Occupational Education, Creative Arts, Science Education, Counselor Education, and Educational Leadership and Management.

The Division also offers the Master of Arts in Teaching (M.A.T.) degree in English and a certificate of advanced graduate study in Individualized Instruction and in Career/Occupational Education. A Master of Science degree in Computer Science is offered in cooperation with the Raytheon Company.

Graduate Courses are open to anyone with a bachelor's degree who is not already matriculated in a degree program. In-service graduate courses are available by special request from businesses, school districts, social agencies or other employers.

The Continuing Education Division offers several programs of study leading to the undergraduate degree. Currently, within this program are opportunities to specialize or "major" in various different areas. These specializations include the following: Bachelor of Science in Business Administration with a specialization in Accounting or Management, Bachelor of Science in Education, Vocational, Bachelor of Science in Human Services, Bachelor of Science in Nursing for Registered Nurses and Bachelor of Science in Industrial Science. Courses which are part of these degree specializations are offered in both regular semesters and the summer sessions. The summer session offers morning and evening classes, full library services, and opportunities for residence hall living.

Inquiries concerning admission procedures in graduate or undergraduate programs may be addressed to the Dean of Graduate and Continuing Education.

STUDENT LIFE

STUDENT GOVERNMENT ASSOCIATION

The purpose of the Student Government Association (S.G.A.) as set forth in its constitution is:

". . . to encourage responsibility and cooperation in democratic self government; to form an official body for expressing the judgments of students and fostering the activities and matters of general student interest; to promote full understanding and cooperation among students, faculty, and administration in order to further the welfare of the college."

All students enrolled as full-time undergraduates are members of the Student Government Association, by virtue of having paid the "Activity Fee". The governing body of S.G.A. is the S.G.A. Council, which is composed of an Executive Board, a Commuters' Board, dormitory presidents and vice-presidents, and the presidents, vice-presidents, and four representatives from each of the classes. Elections are held every spring and freshman elections are held in the Fall.

The S.G.A. is the official voice of the students and participates in campus-wide committees, state and national student organizations, in addition to participation in its own standing and ad-hoc committees. Participation at any level is welcome and encouraged. The S.G.A. also offers a number of services for its members, including programming, copying, and legal advice.

STUDENT RIGHTS AND RESPONSIBILITIES

The philosophy behind the Student Judicial System at Fitchburg State College is that student conduct is a personal responsibility. The Student Judicial Code was developed as a cooperative effort among students, faculty, and staff in order to provide a comprehensive listing of College regulations and sanctions and to establish fair processes for dealing with instances of student misconduct. The central focus of the Judicial System is the Student Judicial Board, which is administered by the Student Government Association in conjunction with the Office of Student Life.

College regulations apply on campus and at college-sponsored affairs wherever they may take place. They include federal, state, and local laws as well as rules and regulations conducive to the attainment of the goals of the college. The following are examples of the areas covered by the regulations, although by no means an exhaustive list: academic honesty; false representation; tampering with college records; theft; vandalism or intentional destruction of college property; harassment; physical assaults; possession or consumption of alcoholic beverages or drugs in violation of college guidelines; false alarms; and the possession or use of firearms.

The complete text of the Student Judicial Code is available in the *Handbook of Rules and Regulations* or from the Student Life or Student Government Association Offices.

ATHLETICS

The Athletic Association of Fitchburg State College, supported by the athletic fee, offers each student an opportunity to participate in activities at the intramural or varsity level. The College fields varsity intercollegiate teams in Cross Country, Track and Field, Tennis, Indoor Track, Soccer, Baseball, Basketball, Ice Hockey and a club football team. Women compete on the intercollegiate level in Field Hockey, Tennis, Volleyball, Basketball, Track and Field, and Softball. Fitchburg State College is a member of the Massachusetts State College Athletic Conference, the National Collegiate Athletic Association, Association Intercollegiate Athletics for Women, Eastern Association Intercollegiate Athletics for Women, Massachusetts Association Intercollegiate Athletics for Women, United States Women's Track Association, Northeast Field Hockey Association, United States Field Hockey Association, the Northeast Women's Intercollegiate Tennis Association, and Amateur Athletic Union, which entitles successful Fitchburg teams to participate in tournament and championship play.

An active intramural program offers the opportunity for team and individual competition to all students in baseball, softball, volleyball, basketball, bowling, tennis tournament, gym hockey and pillo pollo. Coed intramural programs allow participation in volleyball, bowling, tennis tournament as well as recreational activities such as: ice and roller skating, splash parties, open gym and other activities suggested to and by the Women's Athletic Association, the Men's Intramural Board and the Athletic Council. Facilities for the athletic program include a brand new 400 meter Chem-Turf track and field complex, a soccer field, tennis courts, outdoor basketball courts, intramural fields, gymnasium and weight room for training. Construction will begin in the very near future on the baseball diamond and field hockey field.

CAMPUS CENTER

The Campus Center is designed, organized and administered to meet the maximum co-curricular needs of the College community as well as to foster and promote the philosophy of community spirit. Its goals are to maximize the opportunities for human development; provide educational, social, cultural and recreational experiences for the College community; and to provide convenient, economical and satisfactory services to the maximum number of the College community.

The facilities include: an information center, art gallery, recreation room, bookstore, craft center, student offices, meeting rooms, post office, vending services, cafeteria, pub and office of the Alumni Association. All facilities are specifically designed for handicapped access. Some programs and services generated from Campus Center funds are: a weekly calendar of campus activities, special events, minicourses from crafts to disco, demonstrations, recreation tournaments, films, lecturers, video taped entertainment, travel, performing arts, free use of outdoor recreation equipment, and visual art exhibitions.

The Program Resource Office (PRO) is another service of the Campus Center. Its student and professional staff advise and assist student organizations with programming ideas and program implementation. The Office Maintains

complete files and information about the multitude of program opportunities available to students and student organizations. Some of the activities which PRO has assisted with include: film series, concerts, dances, lecturers, weekend activities, Fine Arts Week, trips, exhibits, and leadership training.

CAREER PLANNING AND PLACEMENT CENTER

The Career Center provides a variety of services for students in educational and career planning. The staff works with students to increase their self-understanding and effectiveness in making career decisions. Services of the Center include maintenance of placement credentials; advice in the preparation of resumes and letters of introduction; preparation and distribution of job information to registrants; a placement bulletin board for students and alumni; on-campus interviews between employers and students; and career planning assistance. The Center also provides counseling, guidance, and other assistance important to career planning, as well as remedial and developmental work in reading and study skills.

A job bank is maintained in which full-time, part-time, and summer job vacancies are listed to assist students and alumni in their job search. Local, state, national, and overseas openings are contained in the job bank.

Testing services and consultation are also available to students in the Career Planning and Placement Center. A vocational developmemt test battery and a library of career information are on hand for students who wish to explore their career interests, personality and values. An extensive collection of standardized tests is also housed here. Staff members are available to assist students and other members of the College community in selecting and utilizing tests in research, diagnosis, and evaluation. Several national programs of standardized testing are administered through the College: Graduate Record Examinations; College Level Examination Program (CLEP); and Miller Analogies Test. The Center is open from 8:30 a.m. to 5:00 p.m. weekdays, and is located on the top floor of the Edgerly Building on campus. Students may make appointments by visiting the Center or by telephoning 345-2151, Extension 130.

FOOD SERVICE

daka Food Service provides a variety of food service operations at Fitchburg State College, including the resident program in the Holmes Dining Commons, the Campus Center Cafeteria, and a vending program. The resident program offers a choice of fifteen (15) or twenty-one (21) meals per week which are purchased on a per semester basis and includes special events such as holiday meals. daka Food Service handles all functions on campus, everything from "Coffee-ands" to a full course banquet.

The Campus Center Cafeteria is open to the College community and serves daily, 8:30 a.m. to 7:30 p.m.

FOREIGN STUDENTS

Foreign students are welcomed to enroll at Fitchburg State College, and students from Nigeria, Iran, Thailand,

Japan, Indonesia and Sweden have done so. Foreign students who do not possess a permanent visa are required to complete the following process before an admissions decision is granted by Fitchburg State College. Any student with a permanent visa is considered in the same manner as a citizen of the United States and will be processed as such. All applications for admission from foreign students who do not possess a permanent visa must be postmarked by January 1st for entrance the following September. No foreign applicants are eligible for admission in the January entrance period.

The following steps must be followed by a foreign student when making application for admission to Fitchburg State College.

1. Provide an official statement from a bank showing that sufficient funds will be available for one academic year.

2. Academic transcripts or grades must be provided to the College.

3. Freshman applicants should arrange for the receipt by the College of the Scholastic Aptitude Test scores

(S.A.T.'s) of the College Entrance Examination Board and the Student Descriptive Questionnaire form (SDQ).

4. Provide evidence of scores from the Test of English as a Foreign Language (TOEFL) where the student's first language is not English.

All documents should be sent to the Admissions Office. All supporting credentials must be received by the Admissions Office no later than April 15th for entrance the following September. Documents not in English must be accompanied by an attested English translation. For further information, please contact the Admissions Office.

HANDICAPPED/DISABLED STUDENTS

The Student Life Office provides ongoing assistance to disabled students in accessing college programs and services. Disabled students are expected to move like all students through the college offices and classrooms, but from time to time their particular disability may necessitate additional information and accommodation. The Student Life Office is available to assist in that process.

HEALTH SERVICES

The goal of the student health services at Fitchburg State College is to provide equitable, accessible, quality health care to the student community at a reasonable cost.

The yearly health services fee is utilized in programs of prevention, education and referral, as well as in diagnosis and treatment of illnesses. Such services include blood pressure screening, workshops on dieting, self breast examination and CPR, utilizing some innovative techniques and procedures in these areas.

Health care is provided through the cooperative and combined efforts of a physician, a nurse practitioner, and a medical assistant.

The Health Service provides treatment for episodic illnesses or injury, with referral to appropriate local hospitals when necessary. Arrangements can be made through the Health Service for certain types of vaccinations.

The Health Service is open from 8:00 a.m.-4:30 p.m., Monday through Friday, and is located in Miller Hall.

HOUSING

I. Residence Halls

Three campus residence halls and an apartment complex provide housing for more than eleven hundred students while Fitchburg State College is in session. All residence halls are conveniently located within easy walking distance of classrooms, offices, and other centers of student activity on the campus. Holmes Dining Commons is situated adjacent to the residence halls, and provides meals for all residence hall students as well as many students who live off campus. Students may take their meals on either a five-day or seven-day plan.

Aubuchon Hall is a highrise with ten floors, each designed for forty people in double rooms. Study rooms and recreational facilities are provided on the first floor. Russell Towers, which opened in the fall of 1971, has thirty-six suites housing eleven or twelve people, arranged with a dozen suites in each of three towers. "Family Style" living is enhanced through the inclusion of a living room and kitchenette in each suite. Herlihy Hall, which was extensively renovated in 1977, is the smallest residence with only one hundred forty-two students on three floors. The town-house style apartment complex provides an additional life style choice for students.

Most residence hall rooms are double rooms; the number of single rooms available is very limited. All rooms are provided with basic furnishings such as bed, dresser, desk, and chair. Students must provide their own linen, towels, face cloths, and mattress pad or cover.

The campus residences are much more than places to sleep. These living centers form a major focal point of campus activity, largely through the efforts of the hall councils and the residence staff. The hall council in each building is comprised of elected representatives of the residents and works to plan activities and promote student interests. All four residence halls also have student and full-time professional residence staff who work to assist students with their personal and social needs.

Residence hall space is extremely limited. Students desiring housing are advised to apply for admission with housing well in advance of the deadline for admission to the college. Questions concerning campus housing should be directed to the Housing Office, Aubuchon Hall.

II. Off-Campus Housing

Over two-thirds of the students at Fitchburg State College do not live in the residence halls. A large number live in apartments and rooming-houses in the campus area. The Housing Office and the Student Life Office maintain a listing of available off-campus housing and offer assistance to students who wish to share apartments with other students.

The campus area is convenient to supermarkets, laundry facilities, and shopping. Many students find the off-campus life-style attractive because it affords them the opportunity for increased independence in managing their day-to-day affairs. This "real world" experience helps to prepare them for their post-college life. Off-campus students participate in all campus activities and have their own governing body, the Commuters' Board.

Students who wish off-campus housing assistance or information should contact the Housing Office.

MUSICAL ACTIVITIES

Many opportunities exist for musical performance at Fitchburg State College. The College has a fine 60-piece Concert Band that performs music of all types, from transcriptions of classics to contemporary sounds. The Jazz-Rock Ensemble features big band jazz, rock and experimental music for stage bands. Instrumentalists may also perform in the College Brass Ensemble and Woodwind Ensemble, which offer more challenging music for these instruments. A Recorder Ensemble also specializes in the performance of early music.

Fitchburg State College has a choir that sings a wide variety of mixed-voice choral music and a Women's Chorus that presents music using only women's voices.

The performing organizations at Fitchburg State College have performed concerts in most of the northeastern United States and eastern Canada as well as in five European countries. Performers of all levels are welcome to participate in these exciting cultural and social organizations.

ORIENTATION

The goals of orientation at Fitchburg State College are to provide new students with sufficient and complete academic information so that they can make intelligent course selections; to acquaint them with the facilities, programs, and activities at the College; to answer preliminary questions about any and all facets of campus life; and to begin providing the students with necessary skills in academic, social, and personal areas to ensure a successful beginning to their college experience. The central focus of the program is a 2-day summer program for freshmen and transfer students; supplemented by a one-day program in early September for those unable to come to the summer program. An orientation fee is assessed all students.

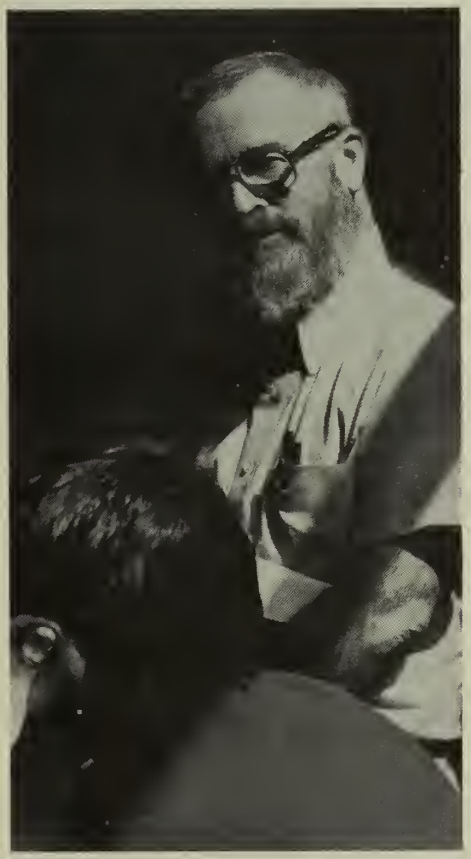
Orientation consists of a series of activities designed to give the new students a broad range of information and

to introduce them to campus life. Each student receives an information packet containing local maps, answers to frequently-asked questions, and information on campus activities. The students receive extensive campus tours in small groups, which afford them the opportunity to visit offices while in operation and to ask questions freely. Similarly, the students are given frequent opportunities to meet in small groups throughout the program to ask questions and share information and experiences. Representatives of major campus activities meet with students to explain their organizations and recruit members. Special-interest group meetings are held on such topics as study skills, adjustment to college, special needs of transfer students, and housing. Social, recreational, and cultural activities comprise evening entertainment. The students take their meals in Holmes Dining Commons and spend the night in a college residence hall, giving them an experience in on-campus living. Academic activities during orientation are also numerous. Mathematics and reading skills aptitude tests are administered to each student prior to academic advisement and registration to assist in proper course selection. Each student attends an academic advising session with faculty from his or her department prior to the registration session.

STUDENT ACTIVITIES AND ORGANIZATIONS

Student organizations at Fitchburg State College provide the community with a wide variety of activities and programming which are designed to help the students round out their college experience. A wide variety of student organizations afford students opportunities to find activities that meet their interests and aptitudes.

The student organization which provides most of the activities for the College is the Programs Committee. Through its various subcommittees, it provides hundreds of popular and well-attended activities each year including films, lectures, concerts, seminars, coffeehouses, pub entertainment and social activities.



There are also many types of student groups: pre-professional academic, honorary, religious, social, athletic, special interest, musical, and service groups.

A partial listing of special interest and service organizations includes the Armenian Club, Choral Arts Association, Hiking Club, Debate Club, Player's Guild, the Voluntary Action Council, the Cultural Society of Minority Students at Fitchburg State College, the Track Club, the Commuter's Board, the FSC Food Coop, and the Football Club.

The pre-professional and academic organizations and honorary groups include the Biology Club, Chemistry Association, Early Childhood Club, Elementary Education Club, Geography Club, Human Services Club, Fitchburg Industrial Arts Association, Epsilon Pi Tau, Medical Technology Club, Nursing Students Association, Political Science Club, Psychology Club, ROTC, Sociology Club, Special Education Club, Nursing Honor Society, and the Mathematical Society.

The musical organizations are the FSC Band, the Choir, the Women's Chorus, the College Brass Ensemble, Woodwind Ensemble, and the Recorder Ensemble.

Some of the social, religious, and athletic groups are the Adelphian Society, Alpha Phi Omega, Esoteric Society, Fenwick Society, Gamma Sigma Sigma, Gavaleer Society, Mohawk Club, Neasylon Society, Phi Alpha Theta Xi-Upsilon, Philodemic Society, Christian Life Community, Intervarsity

Christian Fellowship, Newman Association, the Women's Coop, and the Women's Athletic Association.

Additionally, several student publications, including *THE RHETORIC,* the student newspaper, *SAXIFRAGE,* the College yearbook, and *Runehaven,* the College literary magazine, offer a rich and varied media for student expression.

The Athletic Department administers a full schedule of intramural and intercollegiate athletic teams of men and women. The College enjoys student organized traditional events throughout the year, including Winter Carnival and Fine Arts Week.

The College encourages participation in student organizations. Through these laboratories for expression, students can develop lifetime skills for achieving personal goals. It is hoped that by pursuing these co-curricular programs and activities that students can round out their campus experiences.

RELIGIOUS LIFE

Fitchburg State College students may participate in the services of the many churches, religious congregations and synagogues which are within walking distance of the campus as well as the Newman Center Student Parish which is adjacent to the College. Inter-Varsity Christian Fellowship at Fitchburg State College is a charter member of Fellowship which is represented on college and university campuses throughout the world. Christian Life Community also contributes to religious life at the College.

The Newman Center, although Roman Catholic in origin, provides for the needs of Catholics, other Christians, Jews and Buddhists. In addition to a chapel, the building houses offices for chaplains, a study lounge, and a recreation area with kitchen facilities. The original Center which is located next door provides a chaplain's residence and meeting rooms. The Center provides religious services, educational and cultural programs, and a meeting place for College groups of all kinds.

COURSES AND PROGRAMS IN THE COLLEGE

Explanation of Course Numbers

100-199 Lower level courses.

200-299 Middle level courses.

300-399 Upper level departmental electives.

400-499 Advanced Courses.

Arabic numbers at end of course descriptions represent semester hours and clock hours in that order.

Example

AR 100 Survey of Art Forms I 3-3

The 3-3 represents 3 semester hours, 3 clock hours. The term semester hours is used to designate one class or equivalent laboratory unit meeting.

ART

See Humanities for Faculty Listing.
ASSOCIATE PROFESSORS: Elmer Arsenault, Robert Fritz, Donna Bechis

AR 100 Survey of Art Forms 1 3-3
A study of architecture, sculpture and painting from ancient Egyptian times to the Renaissance in Europe. Emphasis is placed on understanding style in these various art forms.

AR 120 Survey of Art Forms II 3-3
A survey of significant styles in the architecture and painting of the Western World from the year 1800 to the present with emphasis upon the special nature of the visual experience. Assigned readings, lectures and visuals.

AR 140 Drawing 3-6
A studio course which introduces students to the practice of drawing with emphasis upon the description of form through means of line, shade and perspective. Investigation of a variety of media as well as basic stylistic alternatives is encouraged.

AR 150 Life Drawing 3-6
The basic problems in form and anatomy are studied while drawing from the nude and costumed model. Various techniques and tools are explored including a study of some of the great masters' drawings.

AR 170 Design 3-3
The basic elements of design will be applied to the creation of two and three dimensional form. Studio work will explore the characteristics and effects of black and white and color, through the use of mixed media.

AR 180 American Art 3-3
A survey of significant stylistic developments in architecture painting and the decorative arts from the earliest colonial times to the present. Assigned readings, lecture, discussion and visuals.

AR 190 Renaissance Painting 3-3
The development of painting in Italy from 1250 to 1550, the age of Michelangelo. The Northern Europe Renaissance from 1400 to 1700 is also surveyed culminating in the Baroque period of Rembrandt.

AR 200 Introductory Painting 3-6
A study of the basic problems of form, color, and texture as understood in oil paintings. Consideration is also given to the nature and use of the oil painting materials themselves.

AR 210 Contemporary Art 3-3
Course will consist of active student participation in slide discussions, studio work, and museum and gallery trips. Subject matter will be based on contemporary trends in art dating from the 1960's to the present.

AR 220 Sculpture 3-6
Exploration and experimentation with various mediums in order to create 3 dimensional form. The student will incorporate the basic elements of design into the building of sculpture and gain an understanding of how to conceive, develop, and build form. Exploration of materials will be encouraged, as well as mastering basic techniques and media for form building.

AR 240 Advanced Sculpture 3-6
This studio course is a continuation of an expansion upon the basic principles of sculpture, on a more advanced level. Sculpture projects will be geared toward the individual interests and requirements of the advanced student. **AR 220 is a prerequisite.**

AR 250 Advanced Painting 3-6
Accent is placed on the painting of the portrait. Anatomical and formal construction is studied and consideration is given to painterly values of color and texture.

AR 270 Pictorial Design 3-6
This course continues where Advanced Painting ends. Emphasis is given to figure painting, both costumed and nude model. The total figure is studied anatomically and in terms of basic forms. Continued study of color and texture problems are pursued.

AR 280 Art in Elementary Education 2-4
Practice of art as well as observation and discussion of the philosophy of art education in the elementary grades.

AR 300 Museum Internship 3-6
Offered jointly with the Fitchburg Art Museum. Emphasis on museum management and particularly the arrangement of exhibitions. Only by permission of advising art faculty.

AR 490 Independent Study in Art 3 S.H.
For selected students, upon approval of both department head and advising instructor.

BEHAVIORAL SCIENCE DEPARTMENT

CHAIRMAN: Mary Ann Hanley
PROFESSORS: Grainger Browning, Harry Crowley, John Dufault, E. Arthur Garvin, Paul Girling, Donald Isaac, Harold Melvin
ASSOCIATE PROFESSORS: Alan Bernstein; G. Jefferson Breen, Mary Ann Hanley, A. Orin Leonard, David Maloney, Richard Spencer, Charles Streff, Mabel Sgan
ASSISTANT PROFESSORS: David Bakken, Carol Gay, Richard Kruse, Patricia Macrides, Donna Lee McCabe, Cynthia Tower

The Behavioral Sciences Department offers major degree programs in Human Services, Psychology and Sociology.

Human Services

The Behavioral Sciences Department offers a Bachelor of Science in Human Services. The program requires 48 semester hours and is divided into three parts: core requirements, Behavioral Sciences courses, and related electives from other departments. The core requirements include Introduction to Human Services (HS 110), Abnormal Psychology (PY 335), Interviewing Techniques (HS 475), Methods of Case Reporting and Analysis (HS 476), and Field Work in Human Services (HS 480, 481). The additional Behavioral Sciences courses and the related electives are chosen in consultation with the student's advisor. For a more complete description of the major and for the listing of Human Services courses, see HUMAN SERVICES.

Psychology

The Behavioral Science Department offers a Bachelor of Science or a Bachelor of Arts degree in Psychology. For both degrees the program requires 37 semester hours and has a core of required courses and distribution requirements from four areas. Core courses consist of General Psychology (PY 110), Introduction to Research Methods (PY 114), Psychological Statistics (PY 340) (formerly Quantitative Methods II), Experimental Psychology (PY 441) and History and Systems of Psychology (PY 448). Under area requirements students must take at least one course from each of four areas: Developmental, Adaptive, Basic Processes and Applied Psychology. Pre-professional experience in a psychology practicum or internship is strongly recommended. For students who desire a Bachelor of Arts degree proficiency in a foreign language at the second year level is required. For a more complete description of the program and for a listing of courses, see PSYCHOLOGY.

Sociology

The Behavioral Science Department offers a Bachelor of Science or a Bachelor of Arts degree in Sociology. For both degrees General Psychology (PY 110) and Introduction to Sociology (SO 110) are required. Social Research I (SO 213) and Social Research II (SO 214) and Social Theory (SO 216) are strongly recommended. Other courses to make up the required 36 semester hours for the major are chosen by the student and his/her advisor. The Bachelor of Arts degree in Sociology requires proficiency in a foreign language at the second year level. For a more complete description of the Sociology program and for a listing of the courses see SOCIOLOGY.

The Department offers a well-equipped laboratory for Experimental Psychology. It also holds the major responsibility for the operation of the Center of Studies in Human Development. (For a more complete description, see Academic Services.)

BIOLOGY

CHAIRMAN: Stanley Dick
PROFESSORS: Frederic Davis, Stanley Dick, Rose Marie Neunherz, Donald Schmidt, Robert Zottoli
ASSOCIATED PROFESSORS: Neal Anderson, Stanley Krane, Alice O'Malley, George Bond
ASSISTANT PROFESSOR: George Babich

The Bachelor of Arts and Bachelor of Science in Biology must include BI 200, 210, 230, 280, 400, 430 and at least twelve additional semester hours of biology electives. Two mathematics courses at or above the level of MA 120; CH 110, 120, 200, 210 or 240, 250; and PH 110 and 120 are also required courses. The Bachelor of Arts degree requires foreign language proficiency at the second year college level.

A Bachelor of Science in Education, Secondary, in Biology must include BI 200, 210, 230, 280, 400, 430, 488 and at least twelve additional semester hours in biology electives. The program also includes two mathematics courses at or above the level of MA 120; CH 110, 120, 200, 210; PH 110, 120; PY 110, 230, 275; ED 361, 387; CM 020.

The Bachelor of Science in Biology/Environmental Science includes all requirements of the Bachelor of Science in Biology. Additional requirements are six semester hours of earth science or geology, a course in computer science, ES 100, ES 270, and three semester hours of electives in Environmental Science. The major requires that EC 100, Environmental Law, and Urban Planning be used to fulfill the social science requirement and PL 100, EN 440 and a photography or drawing course be used to fulfill the humanities requirements in General Education.

BI 100 Introduction to Life Science I **3-4**
The course focuses on the history, philosophy and content of biology as a science. Laboratory work includes experiences that emphasize problem solving by the student. Primarily for the non-major. 2hrs. lecture, one 2-hr. lab per week. Offered: Fall semester.

BI 110 Introduction to Life Science II **3-4**
Continuation of BI 100. 2 hrs. lecture, one 2-hr. lab per week. Offered: Spring semester.

BI 120 Anatomy and Physiology I **3-4**
Structure and function of the human organism on the cellular, tissue, organ, and system levels. The laboratory emphasizes both physiology and the dissection of preserved mammalian specimens. 2 hrs. lecture, 2 hrs. lab per week. Offered: Fall semester.

BI 130 Anatomy and Physiology II **3-4**
A continuation of BI 120. 2 hrs. lecture, 2 hrs. lab per week. Offered: Spring semester. **Prerequisite: BI 120.**

BI 150 Seminar in Modern Biology **1-1**
Discussion of current topics in basic and applied biological research based on readings of original scientific reports. Each student is expected to prepare one brief presentation on a topic of his or her choice. Strongly recommended for all freshman or sophomore biology majors.

BI 181 Science in Elementary Education **3-4**
Content, methods, and resources suggested by curriculum groups are examined and experiences developed that exemplify current thinking in science education. Recommended only for majors in Education.

BI 200 General Zoology **3-4**
A course designed to acquaint students with basic zoological concepts. Emphasis will be placed on such topics as: scientific method; cell and structure and function, structure and function of tissues, organs and organ systems, evolution and a general survey of the principle phyla of the animal kingdom. 4 hrs. lecture/laboratory/field trips per week.

BI 210 General Botany **3-4**
The structure, physiology and life cycles of the algae, fungi, bryophytes, ferns, gymnosperms, and angiosperms. Relationship of plant biology to agriculture and medicine are also discussed. Laboratory involves study of life and preserved plant materials, simple physiological experiments and plant growth project. 2 hrs. lecture, 2 hrs. lab per week.

BI 220 Plant Physiology **3-4**
Individually paced integration of plant structure and function emphasizing physiology of the integrated plant: water relations; transpiration and translocation, mineral nutrition, photosynthesis, respiration, growth hormones, differentiation and morphogenesis. 2 hrs. of conference, 2 hrs. lab per week, plus additional hours. Offered: Fall semester (alternate years). **Prerequisites: BI 210 and General Chemistry.**

BI 230 Introductory Ecology **3-4**
Survey of major ecological concepts and methodology as a basis for further investigations of the dynamic relationship between organisms and their environment. Field and laboratory work emphasize problem identification, formulation of hypothesis, data collection, and analysis and interpretation of results in terms of their biological implications. 2 hrs. lecture, 2 hrs. lab/field trips per week. Offered: Fall semester. **Prerequisite: BI 100 or 200 or 210 or permission of instructor.**

BI 250 Histology **3-4**
Systematic survey of the basic animal cell and tissue types, followed by in depth microscopic study of the major organ systems. Practical work includes histological microtechnique on normal and pathological specimens. Lecture/lab/demonstration, plus some additional time. **Prerequisite: BI 200 or BI 420 or BI 120/130.**

BI 255 Social Biology **3-3**
An exploration of the biological and cultural evolution of man and how that evolution has developed or caused specific societal problems. A study of the biological explanations for and pos-

sible solutions of these problems. 3 hrs. of discussion per week, 1 hr. independent study. **Prerequisite: 6 semester hours Introductory Biology or equivalent.**

BI 260 Conservation and Human Ecology **3-3**
An introductory exposure to applied ecology, primarily for non-majors, intended to develop a disciplined sensitivity to human environmental interactions. Individual projects will require the identification of specific conservation problems in local communities, their sources, and proposals of practical means for their solution. 3 hrs. lecture/lab per week. Offered: Fall semester.

BI 310 Ornithology **3-4**
An inquiry into the life of birds. Emphasis on correlation of structure, function and behavior. Laboratory studies of external characters, anatomy and criteria for identification. Optional field trips. 2 hrs. lecture, 2 hrs. lab per week. Offered: Spring semester (alternate years). **Prerequisite: BI 110 or BI 200 or permission of Instructor.**

BI 315 Ichthyology **3-4**
The study of the classification, ecology and physiology of the fish common to Massachusetts. Both marine and freshwater species will be covered, with field collecting trips planned. Class time will be divided between lecture and laboratory work. Offered: Fall semester (alternate years). **Prerequisite: BI 200 and BI 230, or permission of Instructor.**

BI 320 Invertebrate Physiology **3-4**
An experimental course designed to acquaint students with the physiological activities of invertebrate animals. Experiments are conducted on feeding and digestion; respiration and circulation; osmotic regulation and excretion; nerve reception and responses; effectors; and conducting systems. Lecture/lab/demonstration. Offered: Fall semester (alternate years). **Prerequisite: BI 200.**

BI 330 Entomology **3-4**
Anatomy, habits, life histories and identification of insects and some related anthropods. Laboratory work includes preparation of a representative collection of adult and larval forms from terrestrial and aquatic environments with emphasis on techniques for identification of these forms. 4 hrs. lecture/laboratory, plus additional hours for field trips and identification. Offered: Fall semester (alternate years). **Prerequisite: BI 200 or permission of Instructor.**

BI 340 Limnology **3-4**
A study of fresh waters and their inhabitants: survey of protists, invertebrates, vertebrates and plants collected from local waters and their ecological interrelationships as determined by biological, physical and chemical parameters. 1 hr. lecture, 3 hrs. lab/field trips per week. Offered: Fall semester (alternate years). **Prerequisites: BI 210 and BI 230 or permission of Instructor.**

BI 350 Plant Taxonomy **3-5**
Classification of higher plants in accordance with evolutionary principles and trends. Laboratory is devoted to the techniques of plant identification with emphasis on the terminology and use of botanical keys. Field trips for collecting representative elements of the local flora and preparation of an herbarium. 1 hr. lecture, 4 hrs. lab per week, plus some independent project work. Offered: Fall semester (alternate years). **Prerequisite: BI 210 or permission of Instructor.**

BI 270 Survey of Micro-organisms **3-4**
Introduction to the biology of major groups of microorganisms: bacteria, viruses, protozoa and fungi, their role in nature and their relationship to man as agents of infectious diseases. Laboratory emphasizes principles and practices of aseptic techniques and diagnostic identification and culture of disease entities. 2 hrs. lecture, 2 hrs. lab per week, plus some additional time. Offered: Spring semester. **Prerequisites: BI 130 and General Chemistry or permission of Instructor.**

BI 280 Genetics **3-4**
Basic principles of biological information processing: Mendelian inheritance; sex determination; chromosome cytogenetics; linkage, recombination and genetic mapping; mutagenesis; molecular genetics and gene-enzyme relationships; population genetics and quantitative inheritance. Laboratory work includes study of mutational effects and analysis of crosses in maize, drosophila, bacteria, viruses and man. 2 hrs. lecture, 2 hrs. lab per week, plus some independent project work. **Prerequisite: BI 200 or BI 210.**

BI 290 Marine Biology **3-4**
Investigation of the distribution of the dominant animals and plants in a salt marsh, sand beach, tide pool, and rocky intertidal area. Data on physical and chemical factors of these habitats will be correlated with the composition, behavior and physiology of the flora and fauna of each habitat. 4 hrs. of lecture/lab/field work per week, plus some additional hours. Offered: Fall semester (alternate years). **Prerequisites: BI 200, BI 210 and permission of Instructor.**

BI 300 Parasitology **3-4**
The morphology and diagnostic identification of representative groups of parasitic protozoa, helminths and arthropods, and their functional lifecycle and pathogenic relationships to animal and human hosts. Epidemiology, pathology and control and treatment of important parasitic diseases. 2 hrs. lecture, 2 hrs. lab per week. Offered: Spring semester (alternate years). **Prerequisites: BI 200 and BI 440.**

BI 360 Biology of Algae **3-4**
Collection and identification of common algae found in the New England area. Emphasis on freshwater forms, but some study of marine algae as well. Distribution of algal species will be correlated with physical and chemical factors in their habitats. Laboratory will include study of algal physiology and reproduction as well as techniques for cultivation. 1 hr. lecture, 3 hrs. lab/field trips per week. **Prerequisite: BI 210.**

BI 370 Mammalogy **3-4**
A study of the special adaptations, life histories, ecology and identification of the mammals of New England. Laboratory work will include identification and preparation of small mammal study skins. Field trips will be made to capture and study animals in the field and to museums for access to study collections and habitat groupings

of the larger mammals unlikely to be seen in the wild. 4 hrs. lecture/laboratory plus additional hours for field trips. Offered: Spring semester (alternate years). **Prerequisite: BI 200 or permission of Instructor.**

BI 390 Tropical Marine Biology 3
A course designed to acquaint students with a variety of tropical marine habitats. Students will be involved in small individual or group projects at a location in the Caribbean for approximately two weeks during the winter intersession. They will be expected to read selected articles during the semester prior to the trip, and on completion, a comprehensive report on the results of their investigation will be required of each individual or group. In addition, each student is responsible for their travel, room and board expenses for the trip. Offered: Spring semester (including the winter intersession). **Prerequisites: Permission of Instructors.**

BI 400 Developmental Biology 3-4
A detailed description of developing embryos from the fertilized egg through the various stages leading to the adult organism. Current theories regarding the molecular mechanisms underlying cell differentiation and other classic developmental processes is also a major theme of this course. Other topics include regeneration, metamorphosis and cancer. Laboratory involves study of development in live sea urchins, chicks, frogs and ferns as well as work with prepared slides. 2 hrs. lab per week. Offered: Spring semester. **Prerequisites: BI 200, BI 210, BI 280, or permission of Instructor.**

BI 410 Biochemistry 3-5 to 7
Individually paced, mastery-oriented introduction to the chemistry of biologically important molecules and their metabolism and regulation; water, proteins, lipids, carbohydrates, nucleic acids and their components. Laboratory emphasizes manual and instrumentated techniques for isolation, qualitative and quantitative analysis of macromolecules and the kinetics and induction of enzymes. 2-4 hrs. conference, 3 hrs. lab per week. Offered: Spring semester. **Prerequisite: at least one semester of Organic Chemistry.**

BI 420 Human Biology 3-4
Anatomy and physiology of the cells, tissues, organs and organ systems of the human organism and their functional interrelationships. (Intended primarily for juniors and seniors who are majoring in Biology or Medical Technology). 4 hrs. of lecture/lab/demonstration.

BI 430 Cell Biology 3-4
Cell and subcellular structure and function. Membranes, cell organelles, bioenergetics, photosynthesis, DNA and RNA structure, function and replication, protein synthesis and gene regulation are the major areas considered. Laboratory includes absorption spectrophotometry, cell fractionation, organelle isolation, DNA isolation and denaturation. 2 hrs. lecture, 2 hrs. lab per week. Offered: Fall semester. **Prerequisites: BI 200, BI 210, BI 280 and Organic Chemistry.**

BI 440 General Microbiology 3-4
Structure, nutrition and growth of bacteria; characterization of representative bacteria, fungi, viruses and protozoa and their genetic and metabolic peculiarities. Immunological techniques and the immune response in man. Laboratory work includes aseptic technique, isolation and cultivation of microbes, staining techniques and diagnostic metabolic reactions. 2 hrs. lecture, 2 hrs. lab per week, plus additional time. Offered: Fall semester. **Prerequisite: Organic Chemistry or permission of Instructor.**

BI 450 Topics in Molecular Biology 3-3
An advanced course dealing with a variety of topics including: molecular approaches to cancer, recombinant DNA, sequencing of DNA and RNA, origin of life, current advances in molecular genetics. Offered spring semester. **Prerequisites: BI 280; and BI 410 or BI 430.**

BI 470 Environmental Health 3-3
Investigations into that aspect of public health that concerns itself with forms of life, chemical substances, environmental conditions and other forces in the surroundings of man that exert an influence on his health and well-being. 3 hrs. of lecture discussion and occasional field trips. Offered: Fall semester. **Prerequisite: BI 110 or equivalent or permission of Instructor.**

BI 480 Neurobiology 3-4
Neural activity and the neural bases of behavior as illustrated by simpler invertebrate and vertebrate nervous systems. Topics will also include: structure and function of neurons, neurodevelopment, cellular basis of behavior (sensory and motor systems), neuropharmacology, neural plasticity. Lectures/demonstrations. **Prerequisite: one year of Animal Biology and one year of Chemistry, or permission of Instructor.**

BI 481 Immunology 3-3
A survey of the immune response, antibody formation and function, immuno-suppression, blood group antigens and antibody-antigen reactions. The principles of complement activity, hypersensitivity and autoallergic reactions. Lectures/laboratory. Offered: Spring semester. **Prerequisites: BI 440 and Organic Chemistry.**

BI 488 Biology Teaching Methods 3-3
Methods and philosophical background for teaching of modern biological science. (This course is a prerequisite for student teaching and should be taken the semester prior to student teaching: consult Screening Policies for Student Teachers for other requirements for student teaching.) 1 hr. public school assisting, 1 hr. discussion, 1 hr. independent study per week. Offered: Fall semester. **Prerequisites: junior or senior standing, ED 301, PY 223 and permission of Instructor.**

BI 490 Independent Study 1 to 3 credits
Laboratory or other independent research under the guidance and supervision of one or more faculty members. A comprehensive term paper is required for successful completion of the project. Offered: Fall and Spring semesters. **Prerequisites: junior or senior standing, 15 credits of Biology and special permission of the Departmental Curriculum Committee.**

BUSINESS ADMINISTRATION

CHAIRMAN AND ASSOCIATE PROFESSOR: George Murphy
INSTRUCTORS: Ann Bogojavlensky, David Carey, John McKeon, Francis Morrison, Harold Schonbeck, Gary Vostok

The Business Administration Program at Fitchburg State College includes concentrations in either of two areas of business: accounting or management.

Core Curriculum: Principles of Accounting I and II, Business Law I, Basic Finance, Practice or Management, Fundamentals of Marketing, Economics I and II, Statistics I and II, Introduction to Computers for Business. Accounting Curriculum: Intermediate Accounting I and II, Business Law, Cost or Managerial Accounting, Tax Accounting, Auditing, Advanced Accounting I and II, Financial Management of Corporations. Management Curriculum: Production Management, Personnel Management, Industrial Psychology, Business Fluctuations and Forecasting, Organizational Behavior and Theory, Social and Political Environment of Business, Business Policy and Strategy and 6 semester hours of Business Electives.

BA 110 Principles of Accounting I 3-3
This course examines basic accounting theory and its application. The course includes the accounting equation; journalizing, posting and trial balance; adjusting and closing procedures; preparation of financial statements; use of special journals, receivables and payables; merchandise inventory; accounting systems and processes.

BA 111 Principles of Accounting II 3-3
This course deals with the more complex forms of business: partnerships and corporations; capital stock and bonds; retained earnings; income taxes and cost analysis. **Prerequisite: BA 110.**

BA 210 Intermediate Accounting I 3-3
In this course emphasis is placed on the application of accounting theory to practice problems in order to develop financial statements of proper form and content. The relationship between various financial statements is constantly reaffirmed. Asset items of the balance sheet are treated comprehensively. **Prerequisite: BA 111.**

BA 211 Intermediate Accounting II 3-3
Liabilities, reserves, funds and stockholders' equity items are thoroughly treated. Presentation is made of the analysis of financial statements through the use of the ratio method and the consequent critical appraisal attendant upon this method of analysis is stressed. **Prerequisite: BA 210.**

BA 220 Principles of Management 3-3
This course is an introduction into the history and development of modern management philosophy. The course will discuss the principles and techniques of business as they relate to the planning, organizing, directing, and controlling of business enterprises.

BA 240 Basic Finance 3-3
This course studies the forms and sources of financing business firms, large and small, corporate and noncorporate. The emphasis is on financial planning and developing judgment in formulating decisions on financial problems. **Prerequisite: BA 110.**

BA 250 Business Law I 3-3
This course is an introduction to the study of business law, its nature and classification, the court systems and their procedures. Contract law, the law of sales and personal property are comprehensively dealt with.

BA 251 Business Law II 3-3
This course is a continuation of Introduction to Business Law and deals with the law of agency, commercial, paper, credit, and the various forms of business. **Prerequisite: BA 250.**

BA 260 Labor Relations and Collective Bargaining I 3-3
An in-depth study of fundamental labor-relations issues: the development of federal labor policy; union organization and union organizing; collective labor-contract negotiation; contract enforcement and the use of strikes and lockouts, boycotts and picketing, and multiemployer bargaining; arbitration and grievance procedure; health, welfare, and safety concerns; equal employment opportunity; labor economics; and state and federal labor legislation, and the role of government in labor disputes.

BA 261 Labor Relations and Collective Bargaining II 3-3
A continuation of BA 260. A significant part of the second semester will consider public sector collective bargaining and organizing (local, state, and national, and within health-care organizations).

BA 312 Cost Accounting 3-3
The control aspects of material, labor, and overhead accounting are stressed. The course covers such areas as job and process costs, standard costs, direct costing, marketing costs, costs in decision-making, capital budgeting and profit planning. **Prerequisite: BA 111.**

BA 313 Cost Accounting II 3-3
This course covers planning of profits, costs, and sales through the use of budgets, cost behavior analysis and cash forecasts. The course introduces direct costing, standard costing and conventional gross profit analysis. It emphasizes the uses of cost accounting data for policy making and decision making purposes through break-even analysis, capital budgeting, differential and comparative cost analysis. **Prerequisite: BA 312.**

BA 314 Managerial Accounting 3-3
This course stresses the usefulness of accounting data as it relates to the managerial decision-making process. Computer applications are integrated with the broad objectives relative to planning, control, and analysis. Among the multifaceted areas of study are financial statement analysis, budgeting standard cost analysis, and capital expenditure planning and control. **Prerequisite: BA 111.**

BA 320 Production Management 3-3
The basic principles of production management related to the effective utilization of the factors of production in manufacturing and non-manufacturing activities for both intermittent and continuous systems are discussed. The course

will also study production organizations, analytical models and methods, facilities design, and the design of control systems for production operations.

BA 321 Personnel Management 3-3
This course surveys techniques of modern personnel management from both the manager and personnel manager's point of view. The course will include such topics as recruitment, selection, interviews, evaluation and development, leadership and supervision, management and labor relations, wage and salary administration.

BA 322 Business Fluctuations and Forecasting 3-3
This course is an analysis of the operations of our free enterprise system with emphasis on the factors responsible for economic instability; analysis of public and business policies which are necessary as a result of business fluctuations. **Prerequisite: MA 170.**

BA 363 Collective Bargaining Methods 3-3
After a discussion of strategies and tactics used in labor negotiations, this course will evolve from simulated contract negotiations. It will give the student first hand knowledge of what goes on at the bargaining table.

BA 410 Advanced Accounting I 3-3
This course includes accounting problems involved in the preparation of consolidated financial statements and in home and branch office relationships, mergers and pooling problems are stressed. Special problems in fund and budgetary accounting for government entities and hospitals are covered. **Prerequisite: BA 211.**

BA 411 Advanced Accounting II 3-3
The purpose of this course is to develop in the student the ability to solve a variety of complex problems in order to prepare him for either public professional examinations or executive accounting work in private business. **Prerequisite: BA 410.**

BA 412 Tax Accounting 3-3
This course considers the Massachusetts and Federal Income Tax Laws, with application to individuals, partnerships, fiduciaries, and corporations. **Prerequisites: BA III or permission of the Instructor.**

BA 414 Auditing 3-3
The basic concepts of auditing and control are examined in this course. It emphasizes internal control, audit problems, and professional responsibilities of the C.P.A. to the auditing requirements. **Prerequisite: BA 211.**

BA 420 Organizational Behavior and Theory 3-3
This course is a general descriptive and analytical study of organizations from the behavioral science point of view. It includes problems of motivation, leadership, morale, social structure, group networks, communications, hierarchy, and control in complex organizations. The interaction between technology and human behavior is discussed. Consideration of alternative theoretical models is given. **Prerequisite: PY 110.**

BA 421 Social and Political Environment of Business 3-3
This course is a study of the evolution of American business in the context of its changing political and social environment. Analysis of the origins of the American business creed, the concept of social responsibility of business, and the expanding role of the corporation are included.

BA 422 Business Policy and Strategy 3-3
This is an integrating course embracing all organic management functions. Cases are used as subjects for analysis and systematic decision making practice. **Prerequisites: BA 111, 320, 321, 322 or the permission of Instructor.**

BA 440 Financial Management of Corporations 3-3
This course covers the analysis and management of the flow of funds through an enterprise. Cash management, source, and application of funds, term loans, types and sources of long term capital. Capital budgeting, cost of capital, and financial structure. It is an introduction to capital markets. **Prerequisite: BA 240.**

BA 460 Labor Law I 3-3
A course relating basic labor issues to the legal process. The study begins with a brief history of U.S. labor in the courts, tracing the development of national labor policy in the twentieth century, embodied in the National Labor Relations Act and in related federal law and regulation. The course then considers the role to the National Labor Relations Board and federal courts in determining whether labor organization conduct or employer conduct constitute "unfair labor practices" under the Act. The course relies mainly on primary materials, both state and federal court decisions, and administrative opinions.

BA 461 Labor Law II 3-3
A continuation of BA 460.

CHEMISTRY

CHAIRMAN: Daniel Robinson
PROFESSOR: George Condike
ASSOCIATE PROFESSOR: Robert Strong
ASSISTANT PROFESSOR: Daniel Robinson
INSTRUCTOR: Mary Svenson

The degree of Bachelor of Arts in Chemistry must include CH 110, 120, 200, 210, 300, 320, 330, 350, PH 130, 140; MA 230, 240 and at least three semester hours of Chemistry electives at or above CH 360. PH 150 is recommended for all Chemistry Majors and proficiency in German at the second year level is required for the Bachelor of Arts.

The Bachelor of Science in Chemistry must include CH 110, 120, 200, 210, 300, 320, 330, 350; CS 150, 230; PH 130, 140; MA 230, 240 and at least 3 semester hours of electives in Chemistry at or above CH 360. PH 150 is recommended.

The degree of Bachelor of Science in Education, Secondary, Chemistry, must include CH 110, 120, 200, 210, 300, 320, 350, 488; PH 130, 140; MA 230, 240; PY 110, 223, 275; ED 301, 387, and CM 020. PH 115 is recommended for Chemistry Majors.

CH 100 Chemistry for Industrial Technology 3-4
The fundamentals of atomic structure, chemical bonding, chemical reactions, solutions, acids and bases, gases and a brief introduction to organic chemicals are discussed. Emphasis is placed on industrial processes and applications of basic concepts of chemistry.

CH 110 General Chemistry I 4-5
The fundamental laws and theories of chemistry such as atomic structure, the periodic table, electrochemistry, descriptive inorganic chemistry, the gas laws, solutions, and chemical binding. Chemical calculations are emphasized.

CH 120 General Chemistry II 4-5
Continuation of (and prerequisite): CH 110 or the equivalent.

CH 130 Chemistry I 3-4
Fundamentals of chemistry for non-science majors. This course is largely limited to inorganic concepts.

CH 140 Chemistry II 3-4
Continuation of (and prerequisite): CH 130 or the equivalent. It also involves a study of organic chemistry.

CH 200, 210 Organic Chemistry I and II 4-6 each
Properties of organic compounds are discussed in terms of their molecular structures and reaction mechanisms. Recommended for chemistry majors, and/or others contemplating graduate study and for those who feel the need for a solid theoretical foundation. **Prerequisites for CH 200: CH 110 and 120.**

CH 240, 250 Introduction to Organic Chemistry I and II 4-5
A survey of the major classes of organic compounds—their chemical and physical properties. Reduced emphasis on theoretical foundations permits inclusion of topics in natural products, chemistry and bio-organic application. **Prerequisites: CH 110 and 120.**

CH 300 Quantitative Analysis 4-6
Emphasis on theory and application of Quantitative Analysis. The lectures stress chemical equilibrium, solubility product, complexometric formation, oxidation-reduction, and stoichiometric calculations. **Prerequisites: CH 110 and 120 or the equivalent.**

CH 320 Physical Chemistry I 4-5
The underlying principles of chemistry from a physical chemistry standpoint. Kinetic theory, theories of the structure of matter, theory of electrolytic solutions, electrochemistry, thermodynamics, kinetics. **Prerequisite: CH 300 or the equivalent.**

CH 330 Physical Chemistry II 4-5
Continuation of (and prerequisite): CH 320.

CH 350 Instrumental Analysis 3-5
Essentially a laboratory course in Instrumental Analysis including one hour lecture per week. Laboratory experiments include spectrophotometric, conductometric, potentiometric, and chromatographic analysis. **Prerequisite: CH 300 or the equivalent.**

CH 488 Chemistry Methods 3-3
Methods of teaching chemistry at the secondary level. Includes a survey of modern secondary science curriculum. Required of all Chemistry education majors. **Prerequisite: CM 020.**

SPECIAL TOPICS

Student and faculty availability determine the time of the following course offerings (not offered every year).

CH 360 Advanced Inorganic Chemistry 3-3
Valancy theories, acid-base theories, reactions in non-aqueous solvents, complexation and chelation, physical measurements. **Prerequisite: CH 320 or the equivalent.**

CH 400 Natural Products Chemistry 3-6
Isolation, purification, and identification of pure compounds from a variety of naturally occurring substances. Special techniques will be introduced whenever feasible. Six hours of laboratory. **Prerequisites: CH 200 and 210.**

CH 410 Polymer Chemistry 3-6
An introduction to the synthesis and properties of macromolecules which also serves as an application of chemical principles to this interesting and important group of materials. Two hours of lecture and one four-hour laboratory period. **Prerequisites: CH 200 and 210 or the equivalent.**

CH 430 Radiation Chemistry 3-3
Fundamentals of radiation chemistry, including radioactivity, atomic nuclei, nuclear reactions, activation analysis, reactors, and radiation detection and measurement with emphasis on the use of radioactive materials in chemical applications. **Prerequisites: CH 300, PH 140.**

CH 490 Independent Study in Chemistry 1 to 3 S.H.
Laboratory research under guidance of the Chemistry staff. **Prerequisite: Permission of the Instructor.**

COMMUNICATIONS/MEDIA

CHAIRMAN: Lee DeNike
PROFESSORS: William Bowers, Lee DeNike, David Ryder
ASSOCIATE PROFESSORS: William Fitzgibbon, John Magnasco
ASSISTANT PROFESSORS: Teresa Carsten, John Meaney, Peter Laytin
INSTRUCTORS: Gunther Hoos, Wilfred Thibeault

The Communications/Media Program is designed to integrate the theory and skills necessary for the design, production and evaluation of visual, electronic and printed media. Using the most sophisticated, multi-million dollar facility in the Commonwealth, the program prepares students for professional careers in the fields of: photography, documentary film making, video, graphic design, and computer assisted-managed instruction. Opportunities are also provided for exploration in technical writing. Coupled with a well-rounded education in the humanities, sci-

ences and social sciences, students culminate their course of study with on-the-job training in their chosen area of specialization.

PHASE I

Phase I is the foundation of the program and is comprised of four required courses. Students are introduced to a variety of language and code systems used in print and non-print media. Other studies in this phase of the program include an introduction to the creation and interpretation of visual messages, the impact of mass media upon the individual and society, and the technology used to convey messages.

PHASE II

Phase II provides the student with an opportunity to examine the personal and social interaction skills necessary for professional effectiveness. In this phase the student selects three of the listed courses. Topics of study include: interpersonal communication, group dynamics, learning theory, and organizational and management procedures.

PHASE III

Phase III is the "specialization" area of the program. It provides an opportunity for students to become involved with an in-depth investigation in the area of communications most closely aligned with individual talents and career inclinations. Students may choose one of the following areas for specialization: photography, graphic design, documentary film, video, CAI/CMI, journalism/technical writing. Selection of an option and the six courses necessary to complete the option is done with the consent of the student's advisor.

PHASE IV

Phase IV provides the culmination study in the program requiring the student to apply his or her knowledge and skills to a professional work setting associated with the chosen area of specialization. This is required of all degree candidates.

COURSES DESIGNED FOR NON-COMMUNICATION MAJORS

CM 010 Audiovisual Equipment Operation 1-1
This course will focus on the knowledge and skills necessary to operate audiovisual equipment.

CM 020 Design, Preparation and Production of Instructional Materials 3-3
This course will provide students with practical experience in visual communications. Students will become involved in a variety of media activities including the design, preparation, production and evaluation of graphic, photographic and other types of visual and aural materials.

CM 030 Amateur Photography 3-3
This course deals with the fundamentals of photography. A minimum emphasis is placed on darkroom techniques. Students are responsible for all paper and film supplies.

COURSES DESIGNED FOR COMMUNICATIONS MAJORS

Phase I

CM 110 Introduction to Languages of Communication 3-3
Examination and experimentation with organized sets of symbols that constitute a language or code using tools and concepts evolved in the study of English. The language/codes studied will include computer programming, languages, visual languages, and non-verbal interpersonal language.

CM 111 Introduction to Technology of Communication 3-3
A focus on equipment operation and simple maintenance procedures in the areas of audio/visual, photography, film and television equipment.

CM 112 Introduction to Message Design 3-3
An overview of visual communications. Students will become involved with a variety of media activities providing experiences in the design, conversion, interpretation and evaluation of graphics, film, television and photography.

CM 113 Introduction to Mass Communication Systems 3-3
A broad, theoretical investigation of mass media and communications. The course treats each medium as an individual social system with its own life and mission. Emphasis is given to the impact of mass communications on society.

Phase II

CM 220 Human Context of Communications Technology 3-3
A study of the human relations problems associated with the introduction of communication technology into business organizations, schools, and other public and private agencies. Students will develop skills in shaping their communications with people who may have different attitudes toward a particular technology. The courses will attempt to develop alternative explanations or translations of given technological characteristics into the framework and values of hypothetical and actual clients.

CM 221 Learning, Teaching and Instructional Communications 3-3
An examination of selected learning theories, an overview of various instructional approaches or methods, and the application of the two to instructional communications.

CM 222 Organizational Communication 3-3
An examination of the organizational and management procedures used as vehicles for communication within business and educational institutions. Such things as budgetary skills, equipment specification, and selection of communications media hardware will be studied.

CM 223 Communications Law 3-3
A study of statutes and regulations governing press, broadcasting and films; comparative analysis of the defamation, contempt, privacy, copyright; discussion of ethics and practice in mass media and business; history of the principles of the laws governing the mass media.

CM 224 Principles and Techniques of Color 3-3
An introduction to the study of color as it affects graphic design. Emphasis will be given to the principles and psychology of color as it relates to color trends and consumer preferences in sales promotion, packaging, and industrial products. Students will study and design color strategies for specific consumer products.

Phase III

CM 300 Introduction to Mini Computers 3-3
An examination of a mini-computer system in terms of theory and application. Emphasis is placed on the development of computer literacy using non-technical terms. No previous experience with computers is assumed.

CM 330 Word Processing 3-3
Students operate computer programs to create, store, revise and print information in a variety of styles. Emphasis is on hands-on applications using non-technical terms. Typing experience is helpful but not necessary. There are no prerequisites for the course.

CM 331 Basic Programming I 3-3
An introduction to BASIC programming using fundamental instructions to program the computer. Programs emphasize the use of card reader, tape storage, controlling a printer and a CRT. Knowledge of CM 330 is helpful but no previous programming experience is required.

CM 332 Basic Programming II 3-3
A continuation of CM 331 using SORTS statements, MATRIX statements and EMULATION utilities. Problems apply advanced programming techniques to CA/MI and communications settings. Knowledge of CM 330 and CM 331 are assumed.

CM 333 Computer Assisted/Managed Instruction (CA/MI) I 3-3
CA/MI is introduced through a literature search and onsite visits to schools and industry. Definitions, descriptions and systematic models are constructed for CA/MI. A multimedia package is prepared which meets the requirements of a sample system model. CM 330 is required for this course. CM 331 should be taken concurrently with CM 333.

CM 334 Computer Assisted/Managed Instruction (CA/MI) II 3-3
A continuation of CM 333. The sample system model developed in CM 333 is used to apply computerized formative evaluation to instruction. Students learn the evaluation model by applying it to a course. **Prerequisites are CM 330, CM 333 and CM 331; CM 332 is taken concurrently with CM 334.**

CM 335 Computer Assisted/Managed Instruction (CA/MI) III 3-3
An applications course combining the knowledge and skills from CM 332 and CM 334. Students, as a team, operate the CA/MI system developed in CM 333 and CM 334. Supportive instructional packages are developed as needs are identified from evaluation feedback. **Prerequisites are CM 332, CM 334 and CM 350.**

CM 340 Newswriting and Reporting for Industrial Publication I 3-3
Fundamentals of news gathering, news evaluation, and structure of news story for the trade and technical journal; writing for instructional manuals; product announcements and critiques.

CM 341 Newswriting and Reporting for Industrial Publication II 3-3
A continuation of the development of the writing skills and reporting processes as examined in CM 340.

CM 342 Feature and Magazine Writing for the Technical Journal 3-3
Writing feature articles for the technical journal, study of markets open to free-lance writers; analysis of current publications but subject matter primarily students' own work with emphasis on rewriting. **Prerequisites: CM 340, CM 341.**

CM 343 Copy Editing 3-3
Principles and laboratory practice in editing news copy, writing headlines, evaluating news, selection of news and feature photographs, caption writing, front page and inside page makeup. **Prerequisites: CM 340, CM 341.**

CM 344 Photojournalism 3-3
Visual communication of information keyed to picture series and picture stories with primary emphasis on utilization within industry-oriented market. **Prerequisites: CM 360, and permission of Instructor.**

CM 345 Writing and Editing for Public Communication 3-3
Emphasis on fundamentals of writing for public communication; analysis of variables, viz., readability, color clarity, organization of material, flow, crispness. Customary forms used in the field including news releases, features, profiles, articles, editorials, manual copy. Further examination of institutional editor as creative interpreter of messages to numerous publics inside and outside the organization. **Prerequisites: CM 340, CM 341.**

CM 346 Principles and Practices of Public Relations 3-3
Treatment of definitions and concepts, history, potential careers, research methods. Focus on role of managed communications in public relations unique to industry, human services and education institutions.

CM 350 Television Production I 3-3
An examination of the production techniques used in television, using both portable and fixed studio equipment. **Prerequisites: CM 112, CM 380, and permission of Instructor.**

CM 351 Television Production II 3-3
Advanced production techniques including lighting, set design, staging concepts and studio operation. **Prerequisites: CM 350 and permission of Instructor.**

CM 352 Instructional Television 3-3
A study of the research, evaluation and application of the television medium for instructional purposes. **Prerequisites: CM 350 or permission of Instructor.**

CM 353 Script Writing 3-3
Emphasis on writing scripts for industrial, educational, documentaries and dramatic productions that utilize electronic media. **Prerequisite: CM 351.**

CM 354 Commercial and Public Broadcasting 3-3
An examination of documentary reporting and editing and the preparation and presentation of news, commentary, feature stories, news pictures, and films. It will also develop a critical appraisal of contemporary commentators. **Prerequisites: CM 351 and permission of Instructor.**

CM 355 Television Management 3-3
A study of television management with emphasis on facilities, personnel functions and activities. **Prerequisites: CM 351 and permission of Instructor.**

CM 356 Industrial Television—On-Location Production 3-3
Development of the skills necessary for on-location video taping using the latest in portable color television equipment. The sites will include industry, business, military, community and health science locations. **Prerequisites: CM 354 and permission of Instructor.**

CM 360 Introduction to Photography 3-3
An introduction to the technical and aesthetic aspects of photography such as exposure techniques, film, paper, and basic 35mm camera work. Students are responsible for all paper and film supplies.

CM 361 Photography II 3-3
A continuation and refinement of the material covered in CM 360. Editing, sequencing and visual articulation are stressed. Students are responsible for all paper, film and mounting materials. **Prerequisite: CM 360.**

CM 362 Photography III 3-3
Advanced work in 35mm photography will be presented in addition to an introduction to medium format cameras. Studio lighting and experimentation with chemistry and film will be explored. Students are responsible for all paper, film and mounting materials. **Prerequisite: CM 361.**

CM 363 Large Format Photography 3-3
This course will specialize in 4 x 5 photography and the use of the Zone System. Students are responsible for all paper and film supplies. **Prerequisite: CM 361.**

CM 364 Introduction to Color 3-3
An introduction to color photography basic theory, C-prints, paper, and Chemistry. Students are responsible for all paper and film supplies. **Prerequisite: CM 361.**

CM 365 Photography—An Historical and Cultural Perspective 3-3
A survey of the beginning and development of photography with a look to the future and its implications.

CM 366 Planning, Organization and Management of a Photographic Facility 3-3
Students will be able to design a space for private, commercial and educational usage. Included will be an understanding of flow, function, equipment inventory, record-keeping and budget control. **Prerequisites: CM 361 and permission of Instructor.**

CM 367 Multi Screen Imaging 3-3
Development of skills necessary to plan, produce and present industrial and educational audio-visual programs requiring a single or multi-screen images. **Prerequisite: Permission of the Instructor**

CM 368 Bio-Medical Photography 3-3
Examination and practice with the current techniques in applying photography to the biomedical field. Students are responsible for all paper and film supplies. **Prerequisites: CM 362, CM 363, CM 364.**

CM 369 Photography Seminar 3-3
Advanced study in the medium. Students are responsible for all paper and film supplies. **Prerequisites: CM 362, or CM 363, or CM 364.**

CM 370 Introduction to Filmmaking-Silent Super 8 3-3
An introduction to cameras, film, lighting, editing, basic animation and wild sound. Students are responsible for all film supplies.

CM 371 Film Production II—Single System Super 8 3-3
An introduction to single system cameras, single system sound, portable and augmented lighting, and basic single system editing. Students are responsible for all film supplies. **Prerequisite: CM 370.**

CM 372 Film Production III—Double System Super 8 3-3
An introduction to double system cameras, double system sound, advanced lighting, editing, directing, and knowledge of film crews. Students are responsible for all film supplies. **Prerequisites: CM 370 and permission of Instructor.**

CM 373 Advanced Film Seminar 3-3
An opportunity to deal with advanced projects in single or double system super 8. Students are responsible for all film supplies. **Prerequisites: CM 371 or CM 372 and permission of Instructor.**

CM 374 Special Topics—16mm 3-3
Examination and practice with 16mm double system. Students are responsible for all film supplies. **Prerequisites: CM 373 and permission of Instructor.**

CM 375 Animation 3-3
Examination of animation techniques for education, industry, and aesthetics. Students are responsible for all film supplies. **Prerequisites: CM 370 and permission of Instructor.**

CM 376 History of Film I—Narrative 3-3
A study of the narrative approach to film making starting from the silent era.

CM 377 History of Film II—Documentary 3-3
A history of documentary films including both silent and sound.

CM 380 Introduction to Graphic Design 3-3
An introduction to the basic methods, attitudes, and skills common to all art forms as applied to graphic communicative form. Emphasis will be on the development of manipulative skill and the ability to handle the basic principles of design such as line, form, balance, contrast, etc. Students are responsible for all graphic supplies.

CM 381 Graphic Design—Production I 3-5
A problem solving approach to graphic design projects. The course involves experiments with the physical and psychological aspects of graphic communication using graphic, typographic, and photographic forms. Emphasis is on the effects of design on the communication process. Students are responsible for all graphic supplies.

CM 382 Graphic Design—Production II 3-5
An examination of the relationship of graphic design to the changing socio-economic forces in our society. This inter-relationship is made evident through the process of solving specific/related design projects. Problems are approached and solutions reached through teamwork and evaluated by joint critique. Students are responsible for all graphic supplies. **Prerequisite: CM 381.**

CM 383 Graphic Design—Photography 3-5
Commercial applications of photography will be explored, including product presentation, advertising, illustration, promotion, and publication photography. The designer as a photographer will solve assigned problems using various techniques and materials including photo modification, various treatments, resin coated papers and Kodalith films. Students are responsible for all graphic supplies. **Prerequisites: CM 360, CM 361, CM 382.**

CM 384 Graphic Management 3-3
A study of the theories and practices of advertising, sales, and marketing management in business, industry and education with emphasis on the graphic designer in the roles of creative art director, production manager, and designer/illustrator. **Prerequisites: CM 381, CM 382.**

CM 385 Display and Signage Design 3-5
A survey of the field of general display, P.O.P. display, signage systems, identifiers and other larger forms of graphic expression. Emphasis on clear communication of information, ease of recognizability, and coherence of designed systems. Problems will be taken through finished product or "mock-up". Students are responsible for all graphic supplies. **Prerequisites: CM 381, CM 382.**

CM 386 Book and Pamphlet Design 3-5
An exposure to the design of text-intensive pieces. Students work with a variety of media (hand-drawn illustration, photography or typography as a graphic element). A discussion of effects of type choice on readability, use of white space, and methods of illustration are included. Problems involve copy casting, type selection, layout and design of multi-paged work, and choice of format and illustration. Students are responsible for all graphic supplies. **Prerequisites: CM 381, CM 382, CM 388, or permission of instructor.**

CM 387 Package Design 3-5
A study of the graphic processes in three-dimensional packaging with emphasis on the various materials and display requirements. Students will investigate and work with letterpress, offset, and silk screen processes. Students are responsible for all graphic supplies. **Prerequisites: CM 381, CM 382.**

CM 388 Typography, Comprehensives and Mechanicals 3-5
An in-depth study of letter forms from ancient through modern photo-modified type. Projects involve the whole process from rough design, through comprehensives, to "camera-ready" mechanicals. Students are responsible for all graphic supplies. **Prerequisites: CM 381, CM 382.**

Phase IV

CM 400 Independent Study
In-depth study of a Communications/Media area not provided within the Communications/Media Curriculum. Permission of the instructor and Department Chairperson required.

CM 401 Practicum 15-30
A full semester internship in which Communications/Media majors apply their knowledge and skills to the solution of comprehensive communications problems.

COMPUTER SCIENCE

CHAIRMAN: Robert Shaughnessy
ASSOCIATE PROFESSORS: Theodore Lapierre, Robert Shaughnessy
ASSISTANT PROFESSORS: Karl Lindquist, Peter Spoerri
INSTRUCTOR: Gerald Johnson

The degree of Bachelor of Science in Computer Science must include: CS 150, 200, 230, 280, 310, 320, 370, 380; MA 230, 240, 260; PH 130, 140, 230, 240; plus 9 additional Semester Hours of Computer Science electives and 6 Semester Hours of Math electives. Recommended electives are: CS 210, 420, 440, 550; MA 170, 250.

CS 100 Introduction to Programming 3-3
Provides an opportunity for the student to learn how to program a digital computer using a popular higher level programming language such as BASIC or FORTRAN. Includes a brief introduction to the major hardware and software components and interrelationships. This course is not

offered for Computer Science major credit. **Prerequisites: none; high school algebra would be helpful.**

CS 150 Introduction to Computer Science 3-3
Provides a foundation for further studies in Computer Science. Topics include: Machine, Assembly and Higher-Level programming; number systems; logic circuits; major hardware and software systems of a stores program digital computer. This is the typical first course for the Computer Science curriculum. **Prerequisite: High School Algebra.**

CS 160 FORTRAN Programming 3-3
An in-depth study of the programming language FORTRAN with emphasis on numerical/scientific applications. Includes a substantial number of programming problems. **Prerequisites: CS 150 or equivalent.**

CS 180 COBOL—I Programming 3-3
Provides an introduction to and practice with the COBOL programming language. Topics include: COBOL; Identification, Environment, Data and Procedure Divisions; record and file design; arithmetic and logical operations; table-handling; sequential disk files. Top-down programming design using the ideas of structured programming is emphasized. Includes a substantial number of programming projects. **Prerequisites: CS 150 or previous experience with a higher-level programming language.**

CS 200 Numerical Methods & Computers I 3-3
This course assumes knowledge of FORTRAN and/or BASIC. Topics generally covered in this course are: brief survey of iterative methods, infinite series, acceleration of convergence of an infinite series, numerical evaluation of exponential, logarithmic, circular functions, etc.; roots of equations, Descartes rule of signs, Fourier-Budan and Sturm theorems; methods of numerical integration. **Prerequisites: good background in algebra and two semesters of Calculus.**

CS 210 Numerical Methods & Computers II 3-3
Finite difference methods, interpolation, extrapolation, summation of certain series; Fourier series; ordinary differential equations (Euler, modifier Euler, Runge-Kutta, etc.). **Prerequisites: Numerical Methods & Computers I (CS 200).**

CS 230 Data Structures 3-3
A study of the methods of organizing information to be used in problem solving. The course will introduce the programming language PASCAL and will emphasize algorithm development and programming style. **Prerequisite: CS 150.**

CS 240 Introduction to Electronics 4-5
D.C. and A.C. circuits, diodes, power supplies, filters; transistors, parameters, common emitter, common base, common collector configuration, load line analysis.

CS 250 Solid State Electronics 4-5
Multi-stage amplifiers, gain, bandwidth, distortion, oscillators, operational amplifiers, analog computation, gates, flip-flops, counters.

CS 270 COBOL—II 3-3
A continuation of COBOL—I with emphasis on variable length records and indexed sequential files. Topics include: sorting and merging files; file creation, management and reporting; systems of programs. Includes a substantial number of programming projects. **Prerequisites: CS 180 or equivalent.**

CS 280 Assembly Language Programming 3-3
A study of programming at the assembly language level. One of the available computer systems will be selected for detailed analysis and programming problems. **Prerequisite: CS 230.**

CS 300 Introduction to Systems Analysis 3-3
Provides an introduction to Systems Analysis. Topics include: problem definition; data collection; alternatives; feasibility studies; proposals; prototype systems; implementation and follow-up. Case studies and project work are included. The course is strongly computer orientated. Students who desire a more complete development of systems analysis should investigate course offerings by other departments. **Prerequisites: Solid programming experience with a higher-level language and at least three courses in some application such as Business, Economics, Education, Sociology, etc.**

CS 310 Operating Systems 3-3
Job scheduling and I/O management in a multiprocessing operating system will be studied. Programming problems will involve the design and implementation of systems programs modules. **Prerequisite: 280.**

CS 320 Programming Languages 3-3
A comparative study of typical higher-level languages. The syntax and semantics of several programming languages will be studied such as: FORTRAN, COBOL, APL, LISP, SNOBOL. **Prerequisite: CS 280.**

CS 370 Digital Electronics 4-5
Diode and transistor gates; flip flops, registers, counters, adders, analysis and synthesis of combinational and sequential logic circuits using integrated circuits.

CS 380 Computer Organization 4-5
Arithmetic and control circuits; memory devices; computer structure; input and output devices; interfacing; typical mini-computer using the PDP-8 as an example; elements of machine language programming as an aid to understanding computer operation from a hardware standpoint.

CS 400 Project Management 3-3
This course provides students with the opportunity to participate as a member of a project team in realizing solutions to a selected problem. Semester Hour credits will vary depending on the current project. Topics include: project planning; organization and staffing; project direction; control systems. This course is strongly computer orientated. Students who desire a more complete development of project management should investigate course offerings by other departments. **Prerequisites: CS 300 or equivalent and permission of Instructor.**

CS 420 Compiler Construction 3-3
The techniques involved in the analysis of source language and the generation of object code. The term project will consist of the design, construction, and implementation of a simple compiler. **Prerequisite: CS 310.**

CS 440 Software Design 3-3
A study of program specification and design for large software projects. Students will develop production programs working in small chief programmer teams. **Prerequisite: CS 310.**

CS 450 Microprocessor Laboratory
Laboratory work in the interfacing of memory systems and I/O to programmable logic devices. Includes the construction and interfacing of a simple peripheral device and the writing of software to control it. **Prerequisites: CS 310 and CS 380.**

CS 460 Topics in Computer Science
This course provides the student with an opportunity to study a topic of current interest. Topics will generally deal with an area of specialized interest or new developments. Semester Hours credits will vary dependent upon the current topic. **Prerequisites: varies with topic, but usually a minimum of five prior courses in Computer Science is assumed.**

CS 470 Programming Practicum
This course provides the opportunity for a student(s) to work under the direction of a faculty member in a particular area of programming. Typical areas of study include: computer graphics; compiler design; operating systems; micro-programming; computer assisted instruction and data structures. Semester Hours credits will vary dependent upon current project.

ECONOMICS

ASSOCIATE PROFESSOR: Caroline Murphy
ASSISTANT PROFESSOR: Nancy Wiegersma

EC 100 Principles of Economics: Macro-economics 3-3
A study of the theory of employment, income and growth. Stabilization policy and current problems in American capitalism are emphasized.

EC 120 Principles of Economics: Micro-economics 3-3
A study of the theory of the business firm. Efficiency in the allocation of resources is examined under conditions of pure competition, pure monopoly, monopolistic competition and oligopoly. **Prerequisite: EC 100.**

EC 130 Consumer Economics 3-3
Theories of consumption and economic functioning, demand; consumer problems; standards of living; policies for protecting consumers and expanding consumption.

EC 140 Money and Banking 3-3
A study of the role of money, credit and banking in the American economy. Special emphasis is placed on the applicability of monetary policy to the problems of economic stability.

EC 150 Economic Development 3-3
An examination of the problems of growth with particular reference to less developed countries; topics of discussion include population, income growth, foreign investment and aid, allocation of resources, and the role of government. Investigation through case studies is emphasized.

EC 160 Public Finance 3-3
A study of the principles of governmental expenditures and revenues. Attention is also devoted to the problems of public debt, fiscal policy, and inter-governmental fiscal relations, with particular reference to the United States.

EC 300 History of Economic Thought 3-3
This course covers the work of the great economists within the framework of understanding the relationship between history and economic thought. From the roots of economic thought in the works of early philosophers, the course turns to the giants in political economy: Adam Smith, David Ricardo, Karl Marx, Alfred Marshall, J. M. Keynes.

EC 320 Comparative Economic Systems 3-3
This course covers the different economic systems operational in the world today. Emphasis is on differences between market or capitalist systems and socialist systems. The centrally planned economies are considered as well as the social democratic economies of Northern Europe. **Prerequisite: EC 10, Principles of Economics: Macro Economics**

EC 490 Independent Study in Economics
Open to students who have permission of the supervising instructor and the department. Course of study, meetings, and credit by arrangement.

EDUCATION

CHAIRMAN: Francis Powers
PROFESSORS: Patricia Barbaresi, Howard Kingsley, Robert Lee, Francis Powers, Elizabeth Ross
ASSOCIATE PROFESSORS: Anne Green, George Miller, Helen O'Flaherty
ASSISTANT PROFESSORS: Richard Houston, Irene Passios

The degree of Bachelor of Science in Education, Early Childhood, must include ED 100, 210, 211, 220, 240, 310, 311, 384, 405; PY 110.

The degree of Bachelor of Science in Education, Elementary, must include ED 300, 303, 304, 386, 410; PY 110, 221, 275; MA 100, 483, BI 181; MU 100. The student must also supply fifteen plus semester hours toward an area of specialization. Recommended free electives are

Introduction to Geography, Geography of U.S. and Canada, Introduction to Sociology, Psycho-Social Problems of Urban Children, Learning Disabilities, Children's Literature and Guidance.

Specialization for Elementary Major

All Elementary majors must select and complete a specialization from one of the following areas: Art, Behavioral Sciences, English, Foreign Language, Geography, History, Language Arts, Mathematics, Music, Physical Education or Science. Requirements for these specializations are found below.

Art Specialization

Students in the Elementary Curriculum who wish to specialize in Art may do so by electing courses under the guidance of the Art Department.

Behavioral Sciences Specialization

Students in the Elementary Curriculum who wish to specialize in Behavioral Sciences may do so by electing 24 semester hours under the guidance of the Behavioral Science Department.

English Specialization

Students in the Elementary Curriculum who wish to specialize in English may do so by electing 18 semester hours in English, 6 hours of which should be taken from the following courses: English Literature I, English Literature II, American Literature I, and American Literature II.

Foreign Language Specialization

Students in the Elementary Curriculum who wish to specialize in French or Spanish may do so by attaining the minimum proficiency level of FR 310 or FR 340 or SP 310 or SP 340 and taking either FR 288 or SP 488.

Geography Specialization

Students in the Elementary Curriculum who wish to specialize in Geography may do so by electing 15 semester hours of Geography under the guidance of the Geography faculty from the Geography elective offerings.

History Specialization

Students in the Elementary Curriculum who wish to specialize in History may do so by electing 15 semester hours of History under the guidance of the Social Sciences Department from the History elective offerings.

Language Arts Specialization

Students in the Elementary Curriculum who wish to specialize in Language Arts may do so by electing the following under the guidance of the Elementary Education Department: ED 305; EN 290, 460; PY 215 and PY 216.

Mathematics Specialization

Students in the Elementary Curriculum who wish to specialize in Mathematics may do so by electing 21 semester hours of Mathematics under the guidance of the Mathematics Department. Interested students should contact the elementary specialist advisor in the Mathematics Department for information and advice in planning a program of study. Courses elected to fulfill the requirements of the mathematics specialization are usually chosen from among CS 100, MA100, MA 110, MA 120, MA 130, MA 150, MA 200, MA 210, MA 230, MA 240, MA 260, MA 300, MA 315 and MA 320.

Music Specialization

Students in the Elementary Curriculum who wish to specialize in Music may do so by electing the following under the guidance of the Music Faculty: MU 100, 220 (or equivalent), 480, 420, 430, 440, 450. Three semesters of any combination of MU 410 and/or 400. Two Music Electives.

Physical Education Specialization

Students in the Elementary Curriculum who wish to specialize in Physical Education should elect PE 308, PE 400, PE 407, PE 401 and 6 semester hours of physical activity skills.

Science Specialization

Students in the Elementary Curriculum who wish to specialize in Science may do so by electing 15 semester hours of science under the guidance of the Biology or Chemistry or Physics Departments.

Elect 15 hours from the following: BI 100, 110, 200, 290, 210, 260, 230, 310; CH 110, 120; GE 210; PH 101, 120.

Bachelor of Science in Education, Secondary

Candidates for the degree of Bachelor of Science in Education, Secondary, must complete 60 semester hours of general education and major in one of the following disciplines: Biology, Chemistry, English, Geography, History, or Mathematics. They must complete a sequence of Behavioral Science courses in the order indicated: PY 110, PY 223 and PY 275. English majors must take ED 364. All secondary majors (except Industrial Arts majors) must complete the following sequence of professional courses in the order indicated: ED 301; CM 020; the appropriate Methods course in teaching one's major, and ED 387 Student Teaching in Secondary Education for a full semester.

ED 01 Personal Reading Improvement
Individualized reading programs are tailored to meet the particular needs of each student. Students experiencing difficulty in understanding what they read engage in programs stressing comprehension skills. Students with good comprehension but with slow reading rates receive assistance in acquiring skills to at least double their speed. Additionally, all students are given instruction in reading at different rates for different purposes.

Each student's program is completed after ten weeks or thirty hours of instruction. Students are free to select any three hours in the week—from 8:30 a.m. to 4:30 p.m. One credit per semester.

ED 100 Early Childhood Foundations 4-5
This course gives a brief orientation of the developmental philosophy and goals of early childhood education. Students will consider educational procedures used in facilitating the development of the child, explore the role of the teacher, the environment and the appropriate instructional strategies used with young children. Required of all Early Childhood majors.

ED 210 Reading in Early Childhood Education 4-5
The reading process and factors influencing the development of reading will be examined. Pre-reading and reading skills will be identified and techniques for assessment of skills will be presented. Methods and materials for teaching primary reading will be discussed and illustrated. A practicum in the reading area is required. **Prerequisite: ED 211.**

ED 211 Behavioral Science in Early Childhood I 4-5
Study of principles, patterns, and theories of human development and learning as well as principles and techniques of naturalistic and standardized child study. Observation, recording, synthesis, and interpretation of the behavior of young children will occur within a practicum setting. Case studies will be written. Required of Early Childhood majors. **Prerequisite: General Psychology or Introduction to Psychology.** Required for ED 311.

ED 220 Language Arts in Early Childhood Education 4-5
An examination of the four components of verbal communication—listening, speaking, reading, writing; current materials and programs for developing language; use of literature in language and concept development; practicum for application of learning.

ED 240 Fine Arts in Early Childhood Education 4-5
This course studies the integration of art, music and movement for young children using an interdisciplinary approach. Investigation of the objectives, methods and materials in the fine arts areas.

ED 250 Child Development Bureau Pre-Kindergarten Clinical 4-5
This course provides an opportunity for those interested in working with pre-kindergarten age children to create a learning environment using free and inexpensive materials. Students will create learning devices, design the room layout, develop a program, and then conduct the learning activities with young children under the supervision of the instructor.

ED 270 Parent-Child Relations in Education 4-5
This course explores the role of the parent in the development of the child and how the parent relates to the educational system. This course will stress awareness of how parents stimulate the growth of behavioral trends in their children, as well as their usefulness as resources to improve the educational environment of the child.

ED 280 Integrated Creative Arts Teacher Education Program 15
This is a full-semester experience which includes five weeks of classroom instruction and training (creative work in visual arts, language arts, movement, music, and integrating art forms). Subsequent to the initial period, students will be placed in field stations for classroom experiences for the remainder of the semester. These activities will involve assisting teacher-specialists in one or more of the art form areas, and the development and implementation of programs for the specific classroom and its pupils so as to foster the pupils' personal expression through creation in the arts.

A weekly seminar on Wednesday afternoons from 1:00 to 3:00 will be held at the College for the purposes of workshop experiences and problem solving. Students are expected to be present in the schools on a full-time basis ordinarily throughout the semester. They will be visited and evaluated regularly by College faculty as well as by cooperating teacher-specialists in the schools.

ED 300 Principles and Practices of Elementary Education 3-3
An examination of the theoretical and practical knowledge of the teaching/learning process. Students will demonstrate competencies in the areas of planning, curriculum design, and evaluation. Focus will be placed on the needs and learning styles of the elementary school child and the instructional strategies used to effectively meet those needs. In addition, classroom management skills and techniques will be emphasized. **Prerequisite: PY 221.**

ED 301 Successful Practices in Secondary Education 3-3
An opportunity to experience many teacher roles at the secondary school level. The student serves as a tutor in a public school, develops curriculum and instructional material, and designs, presents, and critiques a micro-lesson.

ED 303 Reading in Elementary Education 3-3
An examination of the reading process, methods of evaluation and strategies for beginning reading. Reading skills and procedures for developing these skills are examined and current approaches to the teaching of reading are evaluated. The student will be made cognizant of methods of grouping and evaluation procedures. A practicum is required. **Prerequisite: PY 221, ED 300.**

ED 304 Foundations of Education 3-3
A study of the professional aspects of teaching, the school's role in society, the organization and support of American education, the historical foundations of education and its philosophical bases. Issues affecting curriculum development and the future of American education are considered.

ED 305 Classroom Reading Diagnosis and Remediation 3-3
This course provides students with the competencies necessary to diagnose and correct reading problems in their own future classrooms and the skills of administering, scoring, and analyzing informal Reading Inventories. A practicum will be completed in which the student will test a child, plan a program of instruction for that child and carry out that program. Emphasis is also placed on the development and utilization of instructional materials with the assigned child. **Prerequisite: ED 210 or ED 303.**

ED 306 Methods and Materials in Early Childhood Education 3-3
A hands-on workshop and exploration of all areas of the curriculum. In doing so students will research and prepare games and devices appropriate to an early childhood classroom. Elective for all education majors.

PL 350 Contemporary Ethical Systems 3-3
Moral experience and reflective ethics; survey and critical evaluation of major ethical theories; ethics and science.

PL 359 Modern Philosophy 3-3
Trends of modern thought since the Renaissance, including Descartes, Locke, Spinoza, Leibniz, Hume, Kant, and Hegel. **Prerequisite: PL 100.**

PL 360 Contemporary Ethical Problems 3-3
Application of ethical thinking to some of today's major social and personal issues including crime and punishment, civil disobedience, prejudice and discrimination, sex, abortion, war, and suicide and death.

PL 361 Contemporary Philosophy 3-3
An examination of some current trends and issues in contemporary American, British, and European philosophy. **Prerequisite: PL 100.**

PL 400 Existentialism 3-3
Origin of contemporary existentialism; its leading ideas as seen in writings of such philosophers as Kierkegaard, Jaspers, Marcel, Sartre, and Camus. **Prerequisite: PL 100.**

PL 410 Philosophy of Art 3-3
An examination of the interpretations of esthetic experience presented by such thinkers as Aristotle, Tolstoy, Shiller, Bergson, Spengler, and Dewey. **Prerequisite: PL 100.**

PL 420 Political and Social Philosophy 3-3
The various political and social ideas beginning with Plato and continuing to Marx. **Prerequisite: PL 100.**

PL 430 Philosophy of Science 3-3
An analysis of the methods and goals of the physical sciences, how they differ from the social sciences, and the philosophic problems encountered in scientific pursuits.

PL 440 Philosophy of Language 3-3
The role played by language in human knowledge and the increased emphasis on the analysis of language in recent philosophy. **Prerequisite: PL 100.**

PL 441 Plato 3-3
Plato's theory of idea, theory of knowledge, ethical and political views, doctrine of the fine arts. **Prerequisite: PL 100.**

PL 442 Aristotle 3-3
A study of Aristotle's philosophy as seen in his Metaphysics, Politics, and Nicomachaen ethics. **Prerequisite: PL 100.**

PL 443 Marxism 3-3
A study of Marx's thought, its origins, development, and contemporary applications. **Prerequisite: PL 100.**

PL 444 Early American Philosophy 3-3
A study of American thought from the Colonial Period through 19th century.

PL 445 Contemporary American Philosophy 3-3
An examination of the current trends and issues in American thought.

PL 446 American Pragmatism 3-3
An analysis of the thought of Peirce, James, and Dewey. **Prerequisite: PL 100.**

PL 447 Seminar/Special Topics 3-3

PL 450 Philosophy of Love 3-3
An analysis of the concept "love" as employed in the social and moral philosophies of various classical and contemporary thinkers. **Prerequisite: PL 100.**

PL 460 Philosophy of Religion 3-3
The God-problem and religious experiences as seen in the classical philosophers and in the philosophies of existentialism and pragmatism. **Prerequisite: PL 100.**

PL 466 Man & Nature
Man and Nature will be based, in part, on the *Ascent of Man* film series by Jacob Bronowski. It will cover a broad range of topics centering on those discoveries, ideas, and events which have been crucial to the development of modern civilization. Subjects as diverse as astronomy, romantic poetry, Einstein's Theory of Relativity, contemporary philosophy, and the human brain will be covered in such a way that the student is given a framework with which to understand and interrelate them. The Man & Nature course, a nine credit hour course combining science and humanities, fulfills three Math/Science and six Humanities credits for the General Education requirements, or the credits may be used as electives.

PL 468 Adventures in Ideas 6-6
A study of the major ideas of Western man and their influence on our lives and our thoughts. Each semester several basic modes of thought are studied and the class explores how each idea manifests itself in literature, science, philosophy, etc. Classes are combinations of lecture and group discussion with considerable emphasis placed on individual student exploration of these major ideas.

PL 489 Comparative Religious Experiences 3-3
This course studies the principal religions of mankind: Buddhism, Islamism, Judaism, and Christianity; their basis tenets and insights into spiritual values.

PHYSICAL EDUCATION

CHAIRMAN AND PROFESSOR: Thomas Battinelli
ASSOCIATE PROFESSOR: Lee Cunningham
ASSISTANT PROFESSORS: Joyce Downey, Barbara Nole, James Sheehan
INSTRUCTOR: Janice Onuska

Physical Education Specialization

The Fitchburg State College Physical Education Specialization is designed to provide students with an opportunity to pursue:

1. Study in an alternative field of interest;
2. Prerequisite study for further graduate work.

The course requirements are: Exercise and Sport Science (3); Overview of Physical Education (3); Behavioral Concepts of Sport (3); Athletic Training and Conditioning (3); and Physical Activity Skills (6).

Human Services majors may substitute Recreational Leadership and Camp Counseling as requirements.

Physical Education Courses

PE 100 Health and Fitness 3-3
A basic survey of the effects of diet, exercise and selected environmental agents upon human, mental and physical health. Topics may include body build and body composition, fitness evaluation and programming, nutritional considerations, psychological correlates of health, chemical alternations, human sexuality, and personal and public health.

PE 200 Adaptations 3-3
The human organism is examined in terms of its adaptation to acute and chronic stress. Physiological responses to such stressors as exercise, heat, and dark, altitude and nutrition are studied theoretically and in a laboratory setting.

PE 226 Officiating Basketball and Volleyball 3-3
The philosophy and techniques of officiating basketball and volleyball for women. DGWS rules are used for both sports, and an opportunity is presented to take the written and practical national examination to obtain a rating in either or both sports.

PE 300 Constitutional Morphology 2-1
An overview of the study of the size and shape of the human body will be presented. Skeletal, physique, lean body, weights and percentage of body fat assessments will be made in relation to physical activity.

PE 301 Introduction to Kinesiology 2-1
An overview of the study of the mechanics of human motion will be presented. This course is designed to integrate Kinesiological principles to the teaching of selected motor activities.

PE 302 Consumer Health 2-1
This course is designed to help the student evaluate health information critically, and select products and services wisely. The past, present, and future of quackery will be explored especially in the areas of food, cosmetics, and chronic disorders. Laws and protection agencies, governmental and private, will be surveyed.

PE 303 Motor Learning and Motor Performance 2-1
The neuromuscular integration of human movement in reference to components and factors related to the learning of motor activities will be investigated.

PE 304 Diet, Exercise and Weight Control 2-1
The course is designed for those interested in weight loss or weight maintenance through the medium of diet and exercise. After an initial assessment of body composition, endurance fitness and the establishment of dietary goals, each student will work toward the normalization of body weight through actual programs of exercise and diet.

PE 305 Figure Control Through Weight Training 2-1
The theory of weight training and diet in relation to figure control will be discussed. Each students will have physique, body composition, aerobic fitness and muscular strength evaluation before and after a weight training program.

PE 306 Weight Training for Athletes 2-1
Theory for the development of muscular strength for specific athletic activities. Anthropometric, body composition, and muscular strength evaluations will be undertaken prior to and following an individually developed weight training program.

PE 307 First Aid and Safety 2-1
A behaviorally oriented course structured for those responsible for the safety and protection of others. Satisfactory completion, with official Red Cross certification, is required for all students in all curricula except Nursing, Medical Technology and all Bachelor of Arts programs. Education majors must have completed a First Aid course at the college or elsewhere prior to student teaching.

PE 308 Behavioral Concepts of Sport and Fitness 3-3
This course is designed to aid the student in understanding the psychological and sociological behaviors common to the realms of sport and fitness. Concepts of competition, cooperation, motivation, social stratification and interaction will be examined. Also, a variety of observational techniques will be used in the analyzation of behavioral reactions.

PE 309 Physical Education for the Orthopedically Handicapped 1-2
The course will include an overview of congenital, postural, and degenerative orthopedic problems. It is designed to aid the student plan suitable corrective exercises and activity programs for people with these special needs.

PE 311 Sports Concepts 2-1
Physical activity skills for team sports will be viewed from the physiological and values perspective. Students will practice physical activity and value techniques.

PE 400 Exercise and Sport Science 3-3
Basic exercise physiology is explored as it relates to the health professions. Theoretical topics include orientation to exercise, movement and energy production, neurological aspects of movement, and circulatory, respiratory, and hormonal factors in exercise. Practical topics include: cardiovascular stress testing, nutrition and weight control, physique and body composition, fitness programming, the female in sports, the influence of activity on growth, evaluation of muscular strength, respiratory responses to exercise, and environmental effects such as altitude and temperature.

PE 401 Athletic Training and Conditioning 3-3
A course designed to discuss the principles of injury prevention and care, the physiology of

training, and nutritional considerations as they apply to athletics.

PE 402 Jogging: Theory and Practice 3-3
The scientific basis for cardiovascular training programs using jogging as the mode of activity will be presented. Prepost cardiovascular and body composition evaluations and individualized jogging programs will be designed.

PE 404 Fundamentals of Coaching 3-3
An analysis of the principles and practices of coaching in various sports will be presented for the prospective teacher-coach.

PE 405 Recreational Leadership 3-3
The organization and administration of recreational activities will be presented in reference to the development of the principles and practices in both school and community programs. Leadership experience with school and community programs will also be offered.

PE 406 Camp Counseling 3-3
Course content provides an opportunity to study some of the problems in the Field of Camping, to acquire skills essential in camp life and to develop leadership in individual and group work. Actual camping experience is gained by attendance at two weekend sessions of a local camp.

PE 407 Physical Education: An Overview 3-3
Designed to provide the student with an overview of the philosophic history, administrative patterns, current curriculum approaches, teaching and learning concepts, and innovative trends in physical education.

Activity courses are taught on a half-semester basis. Each half semester carries 2 clock hours and ½ credit.

Physical Conditioning
Soccer
Basketball
Volleyball
Softball
Tennis
Advanced Tennis
Badminton
Karate
Judo
Gymnastics
Slimnastics
Rhythmics
Aerobics
Folk Dance
Recreational Sports
Canoeing
Tumbling
Introduction to Mountain Hiking
Backpacking
Downhill Skiing
Cross Country Skiing
Modern Jazz
Horseback Riding
Bicycle Touring

PHYSICS

CHAIRMAN: Esmail Valanejad
ASSOCIATE PROFESSORS: Theodore LaPierre, Robert Shaughnessy, Esmail Valenejad
ASSISTANT PROFESSORS: Norman Fredette, Karl Linquist

The degree of Bachelor of Arts in Physics must include PH 110, 120, 150, 210, 220, 230, 310, 320, 340, 450; MA 230, 240; CS 240, 250, and a Physics elective from PH 260, 330, 350, 420, 430, 440. The Bachelor of Arts degree also requires foreign language proficiency at the second year college level.

The degree of Bachelor of Science in Physics must include PH 110, 120, 150, 210, 220, 230, 310, 320, 340, 450; MA 230, 240; CS 240, 250, CH 110, 120; and two Physics electives chosen from PH 260, 330, 350, 420, 430, 440.

The degree of Bachelor of Science in Education, Secondary, in Physics must include PH 110, 120, 150, 210, 220; CS 240, 250, 340, 410; MA 230, 240; PH 230, 260, 310, 320, 330, 420, 430, 440 or 450. The degree also includes ED 301, ED 386 and CM 020.

PH 101-PH 102 Physical Science I and II 3-4 each
For the non-scientist. Emphasis is upon the building of conceptual models, solving techniques, and the processes of science.

PH 103 Astronomy 3-4
A study of planetary motion, the sun, stars, and galaxies. An observing program. A background of algebra is assumed.

PH 110 Introductory Physics I 3-4
An introduction to an analytical study of Newtonian mechanics and the properties of matter. A working knowledge of algebra is assumed. Elements of trigonometry are considered in the course.

PH 115 Environmental Physical Science 3-4
The study of (1) the environment, (2) the effects of pollution on the environment, ecosystems, and natural balance and (3) relevant background material in physical science as needed. **Prerequisite: Physical Sci. I, Earth, Sea and Air, or equivalent.**

PH 120 Introductory Physics II 3-4
An introduction to an analytical study of wave motion, electricity and modern physics. A working knowledge of algebra and trigonometry is assumed.

PH 130 General Physics I 4-5
Mechanics: Straight line motion; circular motion; Kepler's law of planetary motion; universal gravitation; work; energy; power; conservation of energy and momentum; simple harmonic motion. Hydrostatics and hydrodynamics: Archimedes' principle, Bernouli's equation, viscosity, Stokes law, Reynolds number.

PH 140 General Physics II 4-5
Electricity and Magnetism: Coulomb's law, electric field, electric potential, capacitance, electric circuits, magnetic field, magnetic forces on a current-carrying conductor, magnetic field of a current, induced e.m.f., magnetic properties of matter. Heat and thermodynamics: heat and heat measurements; transfer of heat; thermal properties of matter; the laws of thermodynamics; kinetic theory of gases. **Prerequisite: PH 130.**

PH 150 General Physics III **4-5**
Wave motion: waves, vibrating bodies, electromagnetic waves. Geometrical Optics: Laws of reflection and refraction; mirrors; lenses; optical instruments; eye and its optical defects and their correction; illumination and color. Physical Optics: interference and diffraction; polarization. Atomic and Nuclear Physics: atomic spectra; the Bohr atom; Compton effect; X-rays; radiation hazards. **Prerequisite: PH 140.**

PH 210 Applied Mathematics I **3-3**
Trigonometry: Definitions, trigonometric identities; trigonometric equations; trigonometric tables and their construction. Solution of a triangle, quadrilateral, etc. Application to optics. Determinants; applications. Vector Algebra: addition; dot and cross products of vectors. Graphing of polynomials, bipolynomials, rational and irrational functions. Construction of graphs from empirical data, applications.

PH 220 Applied Mathematics II **3-3**
Rules for differentiation of functions of one variable maxima and minima-Taylor expansion of functions. Differentiation of function of several variables—error analysis. Binomial Theorem, exponential and logarithmic functions applications to radioactive decay and Newton's law of cooling, etc. Analytical geometry: Cartesian coordinates; equation of a line; conic sections; etc.

PH 230 Applied Mathematics III **3-3**
Rules for integration by parts, change of variable, partial fractions, trigonometric substitutions, reduction, differentiation under the integral sign. Application: Uncertainty relations; lasers; etc. Differential equations: motion through a resistive medium; an electrical circuit; flow of heat in pipes; radio-active decay; etc.

PH 260 Electronic Physics III—Digital Electronics **3-4**
Fundamental theory and application of digital circuits, diode and transistor gates, flip flops, analysis and synthesis of logic circuits using integrated circuits. **Prerequisite: Electronic Physics II, or a course in basic electronics.**

PH 310 Intermediate Mechanics **3-3**
Calculus and delta methods are used in an analytical study of Newtonian mechanics with application to nonconservative forces, central forces, and rotational dynamics. **Prerequisite: PH 130 or equivalent.**

PH 320 Vibrations and Waves **3-4**
Linear oscillator, free and forced oscillations, damping, vibrating string, traveling and standing waves. Fourier analysis, introduction to wave optics, lab work in physical optics. **Prerequisite: PH 310.**

PH 330 Quantum Mechanics **3-3**
Inadequacies of classical physics, uncertainty principle, Schrodinger equation, physical interpretation of wave function, energy levels, harmonic oscillator, hydrogen atom, perturbation theory. **Prerequisites: PH 150 and PH 220 or MA 240.**

PH 340 Seminar in Physics **1-1**
Oral and written presentation of topics on recent developments in the field of physics. Required of all physics majors. **Prerequisite: Junior standing in physics.**

PH 350 Electricity and Magnetism **3-3**
After a preliminary introduction to vector algebra, electrostatic as well as magnetostatic fields in vacuum and material media are discussed. Maxwell's equations and propagation of electromagnetic waves are considered.

PH 410 Physics for Secondary Teachers **3-4**
Concepts and laboratory work in physics specifically oriented to programs currently being offered or being developed in secondary schools.

PH 420 Statistical Mechanics and Thermodynamics **3-3**
Laws of thermodynamics, entropy, Carnot cycle, kinetic theory of gases, Bose and Fermi gases, low temperature physics. **Prerequisite: PH 310.**

PH 430 Atomic and Nuclear Physics **3-3**
Electronic configuration of the atoms: Pauli principle; shell model of nucleus; radioactivity; elementary particles. **Prerequisite: PH 330.**

PH 440 Solid State Physics **3-4**
Short review of quantum mechanics, crystal structure, magnetism, semiconductor theory, specific heat of solids. **Prerequisite: CS 250.**

PH 450 Advanced Laboratory **3-5**
Selected experiments from different areas of physics; required of physics majors on B.A. program. **Prerequisite: CS 250.**

PH 488 Physics Methods **3-3**
Methods of teaching physical sciences at the secondary level. Includes a survey of modern secondary science curriculum. **Prerequisite: CM 020.**

POLITICAL SCIENCE

ASSISTANT PROFESSOR: Shirley Haslip

Courses in political science are intended for any student with a general interest in politics and government. They are also designed to provide a proper background for students interested in pursuing graduate study or a career in law, public administration, or government and political science. It is recommended that these students take six hours of Modern American Government and six hours of electives.

Modern American Government, PS 100 and PS 200 or the consent of the Instructor are required for all other courses in Political Science.

PS 100 Modern American Government: State and Urban Government **3-3**
Focus upon current issues in urban and state government and politics and attempts to evaluate proposed solutions.

PS 200 Modern American Government: The Federal Government **3-3**
Growth and complexity of the functions performed by the branches of the national government: Congress; President; and Supreme Court. Examination of the crucial role of the President today in national and world affairs. Attention given to current political campaigns. N.B. PS 100

and 200 or the consent of the Instructor are required for all other courses in Political Science.

PS 210 Public Policy Analysis: Case Studies in American Politics 3-3
Covers four major divisions of public policy: health, education, labor, and welfare. The aim is to attain an understanding of how the American political system works through a study of the policy that has come out of that system.

PS 220 Constitutional Law and the Supreme Court 3-3
Treats the Constitution as a living document, tracing its development through historic Supreme Court decisions.

PS 250 Legal Internship 6-12
Internships are available in several regional law offices for those persons interested in para-legal work. These internships prepare students for positions in law offices, public administration, and other human service work. Credit is either 6 or 12 semester hours depending upon arrangements with the Social Sciences Department.

PS 300 International Law and Organization 3-3
A study of the pioneering political institutions which have been fashioned to cope with the issues of world interdependence.

PS 320 Contemporary International Relations 3-3
A study of critical problems confronting the present international system. The "Cold War," armed conflict, internal violence, as well as prospects for the resolution of conflict are explored. Simulational gaming exercises and class discussions supplement readings.

PS 330 Foreign Intelligence and National Security Affairs 3-3
The defense and foreign affairs of the U.S. and U.S.S.R. Nuclear weapons, arms control, civil-military relations, terrorism, policy, and decision making are studied. Special attention is given to foreign intelligence and espionage. Current problems in international and national security affairs are discussed.

PS 350 Political Systems of the Modern World 3-3
A comparative analysis of modern national governments such as the Soviet Union, France, Germany, and Great Britain. Importance of the world's political heritage and the implications for the emerging nations of liberal democracy, communism, and dictatorship.

PS 360 Civil Rights and Civil Liberties in the United States 3-3
Conceptual perspectives of civil rights and civil liberties, freedom of expression and the problem of loyalty and security, equality, the civil rights movement, criminal justice procedures, and the politics of civil rights and liberties.

PS 400 Principles of Administration 3-3
An introduction to administration is presented. Leadership, authority, change, and communications are among the topics discussed. The course includes case studies and problem-solving from such fields as allied health, business, law-enforcement, and government service.

PS 489 Internships in Political Science
Off-campus opportunities, carrying appropriate academic credit, are available in local, state, and federal government offices and with political campaigns. Open to students who have the permission of the department. Credit and hours by special arrangement.

PS 490 Independent Study in Political Science
Open to students who have the permission of the supervising instructor and the department. Course of study, meetings, and credit by arrangement.

PSYCHOLOGY

COORDINATOR: Charles Streff
PROFESSORS: Harry Crowley, John Dufault, E. Arthur Garvin, Paul Girling, Donald Isaac
ASSOCIATE PROFESSORS: Alan Bernstein, G. Jefferson Breen, Mary Ann Hanley, David Maloney, Mabel Sgan, Richard Spencer, Charles Streff
ASSISTANT PROFESSORS: David Bakken, Carol Gay, Richard Kruse, Donna-Lee McCabe

The degrees of Bachelor of Arts and Bachelor of Science in Psychology require thirty-seven semester hours of course work in Psychology (NOTE: The Bachelor of Arts degree requires foreign language proficiency at the second year college level). The program is divided into two groups of courses with special requirements, integrative or pre-professional courses, and related electives.

GROUP I: All courses required

PY 110 General Psychology
PY 214 Intro. to Research Methods
PY 340 Psychological Statistics
PY 441 Experimental Psychology
PY 448 History & Systems in Psychology

GROUP II: At least one course required from *each* area.

Area 1: Developmental
PY 220 Human Growth & Development
PY 221 Child Psychology
PY 223 Adolescent Psychology
PY 224 Adult Psychology
PY 225 Psychology of Women
PY 226 Gerontology
PY 232 Death and Dying

Area 2: Adaptive
PY 216 The Psychology of Speech & Communication
PY 335 Abnormal Psychology
PY 336 Mental Health: A Social-Psychological Perspective
PY 355 Group Dynamics
PY 265 Social Psychology
PY 373 Psycho-Social Problems of Urban Children

Area 3: Basic Processes
PY 342 Physiological Psychology
PY 350 Psychology of Learning

Area 4: Applied Studies
PY 215 Introduction to Speech Pathology
PY 345 Psychological Testing
PY 360 Industrial and Organizational Psychology

PY 371 Learning Theory and Its Application
PY 377 Principles of Guidance

The remainder of the thirty-seven credits should be taken among the above areas or from the following integrative or pre-professional courses and from the related electives. An integrative or pre-professional course is recommended.

Integrative or Pre-Professional Courses

PY 422 Advanced Child Psychology
PY 480 General Psych. Teaching Practicum I
PY 481 Seminar in Developmental Psychology
PY 482 Practicum in Developmental Psychology
PY 483 Practicum in Experimental Psychology
PY 487 Internship in Psychology I
PY 489 Internship in Psychology II
PY 400 Topics in Psychology

Related Electives

ED 211 Behavioral Science in Early Childhood I
ED 311 Behavioral Science in Early Childhood II
PY 275 Tests and Measurements

The Related Electives area would also include seminars, independent study, and other courses approved by the Psychology Curriculum Committee.

Course Descriptions

PY 110 General Psychology 3-3
The science of human behavior. Scientific method, maturation, motivation, emotions, sensation, learning, personality, and adjustment. This course is a prerequisite for all other courses in psychology.

PY 214 Introduction to Research Methods 3-3
Research design, including consideration of sampling procedures, questionnaire design, methods of observation and reporting. **Prerequisite: PY 110.**

PY 215 Introduction to Speech Pathology 3-3
An orientation to speech pathology by identification and referral procedures for primary speech problems, examination and observation of speech therapy procedures. Clinical point of view is stressed. **Prerequisite: PY 110.**

PY 216 The Psychology of Speech and Communication 3-3
This course provides information for judging speech behaviors of self and others. Concepts of speech, language and communication, healthy speaking and listening behaviors, non-verbal communication, animal communication, linguistic and psycholinguistic theory. **Prerequisite: PY 110.**

PY 217 Speech Pathology Principles and Practicum 3-3
This course provides students from allied disciplines with beginning skills for remediation of milder communication disorders in children. Under qualified supervision and from appropriate research, students assist in diagnostic evaluations, case history information, plus other report writing, and aspects of speech therapy planning and implementation. **Prerequisite: PY 215.**

PY 220 Human Growth and Development 3-3
A study of the physical, physiological, social, and psychological development of the individual from conception to old age. **Prerequisite: PY 110.**

PY 221 Child Psychology 3-3
Emphasis on theories and research in child development, and their application to the understanding and guidance of development in normal children. **Prerequisite: PY 110.**

PY 223 Adolescent Psychology 3-3
Adolescence as a cultural phenomenon and as a stage of development is investigated, with the aim of understanding the impact of current theoretical emphasis and trends, physical and sexual development of emerging youth in their search for identity. **Prerequisite: PY 110.**

PY 224 Adult Psychology 3-3
A study of the major theories of adult development, with emphasis on problems and pressures of middle years. **Prerequisite: PY 220 or PY 221 or PY 223.**

PY 225 Psychology of Women 3-3
Objectives involve an increased awareness of the psychological development of women and of the dimensions of self and personhood in relation to society; the examination and analysis of issues relative to current debate concerning the status of women. **Prerequisite: PY 110.**

PY 226 Gerontology: the Psychology of Growing Old 3-3
This course introduces the student to psychological aspects of growing old in our society. Topics for investigation include intelligence and memory, personality differences, altered life styles, disengagement theory, reactions to stress and loss through death. Emphasis is on the normal aging process rather than the pathological. **Prerequisite: PY 110.**

PY 230 Psychology of Personality 3-3
Dynamic factors in personality formation are studied through some of the leading theoretical positions on personality development. **Prerequisite: PY 110.**

PY 232 Psychology of Death and Dying 3-3
Through lectures, readings, discussions, and media, students explore psychological theory, research, and personal feelings concerning the dying process, suicide, grief, sudden death, and dying as it influences persons at different developmental stages. **Prerequisite: PY 110.**

PY 265 Social Psychology 3-3
Psychological constructs and concepts applied to the interaction between human beings. **Prerequisite: PY 110.**

PY 275 Tests and Measurements 3-3
A study of the basic statistical concepts and techniques of measurement, with application to teacher-made tests and standardized tests used in education and psychology. **Prerequisite: PY 110.**

PY 335 Abnormal Psychology 3-3
Normal, neurotic, and psychotic behavior and methods of psychotherapy are reviewed. Techniques for maintaining optimal psychological health. **Prerequisite: PY 110.**

PY 336 Mental Health: A Social-Psychological Perspective 3-3
Theoretical concepts and research in current social psychology are applied to a consideration of definitions and diagnosis, causes and treatment of mental illness, and to a consideration of the determinants of problematic behavior. Labelling theory is also considered, as applied to mentally ill persons. **Prerequisite: PY 110, PY 335 or PY 265, and permission of Instructor.**

PY 340 Psychological Statistics 3-3
Introduction to applied statistics; statistical treatment of data; descriptive statistics; basic inferential statistics up to and including analysis of variance. **Prerequisite: PY 114.**

PY 342 Physiological Psychology 3-3
Relationship between behavior and the structure and function of the organism's nervous system; emphasis on the physiological basis of learning, motivation, emotion, motor activity, and perception. **Prerequisite: PY 110.**

PY 343 Perception 3-3
Principles related to man's awareness of his world. Topics to be considered are psychophysics, the relationship between motivation and perception, the sensory bases of perception and localization in space. **Prerequisite: 15 credits in psychology.**

PY 345 Psychological Testing 3-3
Laboratory course in the theory, administration, and interpretation of group and individual tests used in studying certain behavior characteristics. **Prerequisite: PY 275 or PY 340.**

PY 350 Psychology of Learning 3-3
Principles and theories of learning, classical conditioning, operant conditioning, verbal learning, acquisition of motor skills. **Prerequisite: PY 110.**

PY 355 Group Dynamics 3-3
The nature and dynamics of interpersonal relationships are revealed in typical group settings such as classrooms, workshop seminars, and other discussion-oriented groups. Emphasis is on both content and process as demonstrated in a laboratory learning environment. **Prerequisite: PY 110.**

PY 360 Industrial and Organizational Psychology 3-3
Psychological principles and techniques used in selection and placement of employees: psychological tests; worker motivation and adjustment; training; morale; accident prevention; job efficiency. **Prerequisite: PY 110.**

PY 371 Learning Theory and Its Applications 3-3
The principles and theories of learning, as derived by both the laboratory psychologist and the educational researcher, as applied to various social settings: the classroom, the family, etc. **Prerequisite: PY 110.**

PY 373 Psycho-Social Problems of Urban Children 3-3
The experience of the inner-city child is studied in relation to housing, schools, and teachers; emergence of the "alternative school" and other attempts to help children. Students participate in a two-hour weekly seminar and work for at least five hours in the community. **Prerequisite: PY 110.**

PY 377 Principles of Guidance 3-3
Introductory course for students interested in developing their skills in helping relationships in a one-to-one relationship and or in a group setting. **Prerequisite: PY 110.**

PY 400 Topics in Psychology 3-3
Seminar dealing with contemporary issues in psychology. Specific topics will vary from semester to semester, depending on the instructor. **Prerequisite: Variable-permission of Instructor.**

PY 422 Advanced Child Psychology 3-3
An expansion and continuation of the major topics in child psychology. Opportunities for individual projects and experiences with children will be provided. **Prerequisite: PY 221.**

PY 441 Experimental Psychology 4-4
The scientific method, experimental designs, and laboratory methods in behavioral science, emphasizing laboratory experiments and scientific communication of results. **Prerequisite: PY 340 or permission of Instructor.**

PY 448 History and Systems of Psychology 3-3
A consideration of contemporary psychology as seen in its historical perspective. The development of psychological concepts and theories is traced from their antecedents in philosophy, theology, and the physical sciences. **Prerequisite: Junior or Senior standing, 15 credits in psychology.** Taught fall semesters only.

PY 480 General Psychology Teaching Practicum 6-15
Assistantship in the teaching of General Psychology. **By appointment by staff only.**

PY 481 Seminar in Developmental Psychology 3-3
Seminar dealing with contemporary problems in developmental psychology. Specific topics vary from semester to semester. **Prerequisite: Permission of Instructor.**

PY 482 Practicum in Developmental Psychology 6-12
Experience in practical application of basic principles of human development. Students work with staff in areas of mutual interest. Preference given to students having taken PY 481. **Prerequisite: Permission of Instructor.**

PY 483 Practicum in Experimental Psychology 6-12
Advanced and applied work in experimental psychology. Students work with staff in areas of mutual interest. **Prerequisite: Permission of Instructor.**

PY 487 or 488 Internship in Psychology 6-15
Extensive work in a field or service agency under the supervision of both departmental and agency personnel. Credit will be granted only for work in departmentally-approved settings which provide departmentally-approved experiences. **Prerequisite: Departmental Approval.**

PY 489 Internship in Psychology 12-20
Same description and prerequisites as for PY 487.

PY 493 Independent Study 3-3
Offered primarily to outstanding students of Junior or Senior standing, and requires approval of the professor and of the Chairman of the Behavioral Sciences Department. Independent study may take the form of: special advanced reading programs; problem identification and research; assistantships; acquisition of professional skills. Under no circumstances will independent study be substituted for regularly scheduled courses. Independent study may be taken for from 1 to 6 semester hours.

RUSSIAN

PROFESSOR: John Burke

RU 100 Russian for Beginners I 3-4
Correct pronunciation, reading ability, and fundamentals of grammar and syntax. Russian gradually becomes the working classroom and laboratory language.

RU 110 Russian for Beginners II 3-4

RU 200 Intermediate Russian I 3-4
Remedial pronunciation, grammar variety, conversation, and laboratory practice. Readings stress U.S.S.R. life, customs, and culture. Russian is the working language. **Prerequisite: Two years of high school Russian or RU 110 and/or Instructor's permission.**

RU 210 Intermediate Russian II 3-4
Continuation of RU 200.

RU 360 Russian Literature in English Translation 3-3
A seminar on a specific topic from Russian literature (e.g. Dostoevski & Tolstoy; Soviet Literature etc.) Lectures and readings in English. Emphasis on significant works of Russian and Soviet literature. May be repeated for credit.

RU 370 Russian Culture and Soviet Life (in English) 3-3
An introduction to Russian life and culture as manifested in Russian geography, art, music, film and literature. National characteristics of the Russian people and their influence on Soviet institutions. Everyday life in the Soviet Union. Includes a significant audio-visual component.

RU 490 Independent Study in Russian
Open to students in the language with the permission of the supervising instructor and the Department Chairman. Meeting times and credit by arrangement.

SOCIAL SCIENCE

CHAIRMAN: Norman Carson
PROFESSORS: James Barbato, Muriel McAvoy, George Merriam, Donald Norton
ASSOCIATE PROFESSORS: Lawrence Arnold, Robert Champlin, Robert Gardula, Pasquale Micciche, Caroline Murphy, Edmund Thomas
ASSISTANT PROFESSORS: John Clark, Douglas Hebb, Nancy Wiegersma
INSTRUCTOR: Shirley Haslip

The Social Science Department includes the faculties of economics, geography, history, and political science. Major degree programs are offered in history and geography.

History

The Social Science Department offers a number of alternatives for history majors. Various program arrangements can be structured to student needs. The major includes core requirements with concentrations in Local and Applied History, Russian Studies, Latin American Studies, Western European Studies, American Studies, and Introduction to Museum and Archival work. Students may also become involved in the Legal Internship Program. Concentrations and special programs are arranged through individual advising with faculty. Interested students should contact the Department Chairman. A complete description of this major program and listing of history courses may be found in the section entitled History.

Geography

The degree of Bachelor of Science and Bachelor of Arts in Geography must include the Introduction to Geography and 36 semester hours in one of the following areas: Earth and/or Environmental Science, Urban-Community Development and/or Public Service or Area Development. Courses are structured to prepare students for employment or graduate school. The Bachelor of Science degree contains a core of education courses and 27 semester hours in geography electives. A complete description of the major program and a listing of geography courses may be found in the section entitled Geography.

Economics and political science courses are listed under Economics and Political Sciences.

SOCIOLOGY

COORDINATOR: Harold Melvin
PROFESSORS: Grainger Browning, Harold Melvin
ASSOCIATE PROFESSOR: A. Orin Leonard
ASSISTANT PROFESSOR: Patricia Macrides

Sociology is one of the disciplines which make up the Behavioral Sciences Department. A major field in itself leading to the B.A. or B.S. degree, Sociology courses are also a component of other majors in the Behavioral Sciences.

The major requires 36 semester hours of undergraduate course work approved by the Faculty. Programs are designed for students who are interested in employment immediately on graduation and also for the student who plans to continue on to graduate school. It is a desirable major for pre-law, public administration, public relations, social welfare and related graduate programs. SO 110, Introductory Sociology, is a prerequisite for all other courses in this area.

Each of the regular faculty members serves as advisor to students majoring in Sociology and in conference with the advisee will design a program suited to the student's goals. Strongly recommended for all majors are SO 213 and SO 214, Social Research Methods and Analysis, and SO 216, Social Theory. HS 350, Introduction to Social Work, and HS 374, Probation, are acceptable for the 36 semester hour requirement for a Sociology major.

Course Descriptions

SO 110 Introduction to Sociology 3-3
Structure and process in human group behavior, with consideration of development, maintenance, and change variables. **Prerequisite for all other Sociology courses.**

SO 213 Social Research I 3-3
The purpose of this course is to develop skills in research concepts and techniques related to sociological study.

SO 214 Social Research II 3-3
The course proposes to increase understanding and appreciation of problems, methods, and applications of social research through experience and analysis.

SO 216 Social Theory 3-3
Social philosophy precursors, sociological scientific theorists from Comte to Parsons, contemporary schools of thought in Sociology.

SO 225 Introduction to Anthropology 3-3
The study of cultures: technology, economics, kinship, political structures, languages, and religion. There are no pre-requisites for this course.

SO 235 Sociology of Language 3-3
Includes elements of phonology, dialectology, linguistics, semantics, lexicology, and etymology in relation to age, sex, class and peer group variables.

SO 244 Urban Sociology I: Community Development 3-3
The structure and function of cities in history and modern life.

SO 245 Urban Sociology II: Community Analysis 3-3
The community as a social system. The course includes field study involving observation and analysis of local communities.

SO 250 Race and Ethnic Relations 3-3
Concepts and research relating to understanding and evaluation of relations among ethnic and racial groups with particular emphasis on current black/white relations in America.

SO 251 Future Studies: Sociological Perspective 3-3
Examines various techniques for projecting the future and develops an awareness of alternatives for the future and significant variables.

SO 362 Sociology of Religion 3-3
Structure and function of religious organization, beliefs, and practices. Current issues in American religion.

SO 363 Sociology of The Family 3-3
Structure and function of the family: trends and practical solutions to problems in family living.

SO 365 Industrial Sociology 3-3
Study of industrial organizations and the process of industrialization. The impact of technology and related factors on work organizations will be analyzed.

SO 370 Social Problems 3-3
Consideration of major social problem areas such as: energy, family, government, poverty, health, crime, etc. Etiology, analysis, and prognosis are studied.

SO 375 Criminology 3-3
A survey of the field of criminology including such topics as: professional crime, organized crime, homicide, sex offenses, juvenile delinquency, and the administration of criminal justice.

SO 376 Juvenile Delinquency 3-3
A critical examination of major sociological theories of delinquency including an analysis of empirical studies. Attention will also be given to the juvenile judicial system and proposed treatment programs.

SO 400 Topics in Sociology 3-3
Offered for supplementation and enrichment of offerings in the major. With permission this course may be taken more than once. Topics which have been offered include: Social Stratification, Social Inequality, Social Gerontology and sex/gender roles in society.

SO 483 Practicum in Teaching Sociology 6-15
Provides a variety of work experience under professional supervision. For sociology majors only.

SO 487 Senior Seminar in Sociology 3-3
Preparation for GRE, reviews of course material and complements students' overall knowledge of the field.

SO 487, 488 Internship in Sociology 6-15
Arranged for in consultation with Faculty and carried out under auspices of an approved agency or program in the community, or a state or federal agency or office. This experience should be of such a nature as to develop skills in sociological research and application of sociological concepts and principles.

SO 489 Internship in Sociology 12-30
See SO 487 for description and prerequisites.

SO 490 Independent Study 3-3
A program of study designed with the student to make possible in-depth learning in a specific topic for which no regular course is available. For Sociology majors only. May be taken no more than two times with permission of Faculty. An Independent Study may be taken for 1 to 6 s.h.

SPANISH

ASSISTANT PROFESSORS: Anthony Feroci, Jeannette Scharf

SP 100 Spanish for Beginners I 3-4
Correct pronunciation, reading, ability, and fundamentals of grammar and syntax. Spanish gradually becomes the working classroom and laboratory language.

SP 110 Spanish for Beginners II 3-4
Continuation of SP 100.

SP 200 Intermediate Spanish I 3-4
Spanish America. **Prerequisite: SP 100-110 equivalent.**

SP 210 Intermediate Spanish II 3-4

SP 300 Spanish Civilization I 3-3
Prerequisite: SP 210 and/or Instructor's permission.

SP 310 Spanish Civilization II 3-3

SP 330 Spanish Literature I 3-3
A survey of Spanish and Spanish American literature; conducted in Spanish. **Prerequisite: SP 210 and/or Instructor's permission.**

SP 340 Spanish Literature II 3-3
Continuation of SP 330.

SP 350 Spanish Conversation and Composition 3-3
For students desiring greater fluency in speech and writing. Recommended for civilization and literature courses and foreign language specialization. **Prerequisite: SP 210 or Instructor's permission.**

SP 400 Practical Spanish for the Public Services Professional 3-3
Spanish for people in public services, human services, nursing, medical technology, special education, with special emphasis upon the cultural and psychological characteristics of Spanish speaking peoples.

SP 410 Practical Spanish for the Public Services Professional II 3-3
Continuation of SP 400 or Instructor's permission.

SP 488 Methods for Teaching Spanish in the Elementary School 3-3
Techniques and materials for use in elementary school. **Prerequisite: Minimum of 12 semester hours beyond beginner's level and permission of Instructor.**

SP 490 Independent Study in Spanish
Open to students in the language with the permission of the supervising Instructor and the Department Chairman. Meeting times and credit by arrangement.

SPECIAL EDUCATION

CHAIRMAN: Anne May
PROFESSORS: Rosemary Giovino, Anne May
ASSOCIATE PROFESSORS: William Brown, Katherine Flynn, Lawrence Gomes, Hattie Moreland, Donald Rapp, Michele Zide
ASSISTANT PROFESSORS: Carla Borg, Michael Fiorentino, Sandra Miller-Jacobs

The Special Education Department at Fitchburg State College is the oldest and most comprehensive state program in the Commonwealth of Massachusetts. In this program, emphasis is given to content, application and the ability to use strategies and resources in working with children with special needs.

Fitchburg State provides two major options within the Special Education curriculum. Teacher Education for Children with Special Needs (grades Kindergarten to ninth) and Teacher of Young Children with Special Needs (ages 3-7) are offered.

MAJORS IN SPECIAL EDUCATION

I. Teacher of Children with Moderate Special Needs (K-9 Resource Teacher)
A performance-based program, this undergraduate major prepares students to provide direct services to handicapped children and adults. This is a combined special education and elementary sequence of study which includes concentration in the areas of mental retardation, emotional disturbance/behavioral disorders and learning disabilities.

The bachelor of Science in Special Education must include SE 210, 220, 365, 386; PY 110, 215, 371, 275, 377; AR 228 or MU 480; MA 483 and ED 386; and four electives in Special Education which are chosen from courses SE 230 through SE 490. All Special Education courses must be taken at Fitchburg State College. All requirements are subject to change to the extent required by state regulations governing certification of educational personnel.

II. Teacher of Young Children with Special Needs (ages 3-7)
The Department of Special Education and the Early Children component of the Education Department have combined resources to undertake a comprehensive program to prepare personnel to teach young children with handicaps.

Students are prepared with a firm foundation in early childhood growth and development concepts. Through observation and student teaching students will be exposed to assessment and methods and materials appropriate for young children with special needs. Student teaching experience is required in both a special needs classroom and in a conventional classroom setting.

The Bachelor of Science in Education for the Teacher of Young Children with Special Needs must include ED 100, 210, 211, 220, 240, 270, 310, 311, 405; SE 210, 251, 350, 390; and 12 s.h. of student teaching.

SE 200 Nature & Needs of the Young Child with Special Needs 3-3
This course focuses on the effects of handicapping conditions on the development of young children with special needs. The rationale for early intervention, the importance of the child-environment interaction and current legislation affecting young children with special needs will be discussed. Observations of programs servicing young children with special needs will be made. **Prerequisite: Early Childhood/Special Education Majors.**

SE 210-220 Nature and Needs of Exceptional Children I and II 3-3 each
Etiology, classification, problems of children who have physical disability, mental retardation,

emotional or social difficulties, giftedness. Clinical observations and consultations.

SE 230 Alternative Programs in Special Education

This course is designed to prepare students with the skills necessary to function in alternative programs for persons with special needs, from birth to adulthood.

1. Students will be able to identify alternative programs serving persons with special needs on a continuum and evolving in a cascade for services from birth through adulthood.
2. Students will be able to examine the organizational structure and identify the administrative design, funding sources, staffing patterns, agency collaboration, and community outreach.
3. Students will be able to identify the medical, social psychological and habilitation program aspects and their development.
4. Students will develop a case report on one client.
5. Students will identify components for being a client advocate.
6. Students will design a practicum with an agency under the supervision of an agency professional and a college supervisor.

Prerequisite: Integrated Program, SE 240 must be taken concurrently.

SE 240 Seminar in Special Education: Alternative Secondary Education and Vocational Training Programs

A seminar and field work course that examines programs for low incidence, severely handicapped (MR, ED, and Multi-handicapped) adolescents and adults. In addition to field work teams of students will research and report on various alternative programs, and explore evaluation procedures utilized for placement and curriculum development. This course will focus on the role of the Special Educator as a member of the professional team in alternative programs. **Prerequisite: Integrated Program must take either SE 230 or SE 300.**

SE 250 Drugs and Schooling 3-3

A study of the history of drug use and abuse among school age children and adults. The course involves completing a research orientated learning package and implementing a learning contract designed to meet the students' personalized educational goals related to the topic of drugs and schooling. Topics discussed include preventative and treatment modalities implemented to effect young children, adolescents and adults who have concerns which involve the use of drugs.

SE 251 Identification and Diagnosis of Children with Learning Problems 3-3

Students will:

1. Analyze the learning process in terms of physiological, neurological, social and language development and demonstrate knowledge of a typical developmental pattern.
2. Select and administer evaluative measures in cognitive, perception, motor, language and academic areas and interpret the results.
3. Plan teaching processes for children with learning problems.

Prerequisite: Language and Speech Development.

SE 260 Affective Developmental Strategies 3-3

Students study the affective domain variables as they relate to developmental stages of psychological growth, moral development, achievement motivation, and value clarification. Strategies designed to enhance affective growth within a basic skills curriculum are discussed. Each student designs a unit of study within a basic curriculum subject area utilizing affective strategies to enhance the assessed affective needs of a given population.

SE 300 Habilitation and Rehabilitation of the Special Child 3-3

An analysis of the adaptive problems of the handicapped child and adult. **Prerequisite: Integrated Program, Consent of Instructor must take SE 240.**

SE 310 Early Learning Experiences for Exceptional Children 3-3

This course emphasizes a developmental approach to working with young children with special needs. Students will compare and contrast various screening and assessment devices used for children ages 0-6 and will be able to use developmental check-lists to plan curriculum. Various infant and preschool programs for young children with special needs will be examined. The importance of play will be discussed (Practicum).

SE 330 Current Issues in Special Education 3-3

This course is designed to assist students in Special Education to gain a broad perspective on the aspects of controversy and change which are influencing the profession. In addition, with the inclusion of diverse and, in some cases, incongruent perspectives, the course is intended to stimulate critical thinking among prospective special educators. Various current issues effecting special needs children, their parents, teachers and the continually changing field of Special Education will be researched, examined, and discussed. **Prerequisite: SE 200, 210, SE 220.**

SE 340 The Multiple-Handicapped 3-3

This course deals with theoretical issues, diagnosis, field work, and planning of instruction for children with multiple handicaps. Specialized methods of evaluation in perceptional, motor, language, and tactile functioning will be emphasized. Students will plan strategies to teach motor, perceptional, language and life skills. Students will analyze a task, define the components of the task and identify related tasks utilizing similar skills. **Prerequisites: SE 200, SE 210 and SE 220.**

SE 350 Behavior Management in the Classroom II 3-3

This course prepares the students to implement a variety of behavior management techniques e.g., Time-Out, Contingency Contracting, and Applied Behavior Analysis. Emphasis is on the development of a positive problem-solving approach to manage academic and social behaviors. Consideration is also given to developing an awareness of the teacher's behavior and its effect on the behavior of children.

SE 360, SE 370 Seminar in Special Education I & II Tactile and Motor Implications in Learning 3-3

A study of the major theories of motor learning in exceptional children. Assessment procedures and teaching methods are emphasized throughout. Students will actively participate in developing and demonstrating activities. **Prerequisites: SE 200, 210, and SE 220.**

Spring: Visual Implications in Learning

An introduction to visual impairment in children and youth. Etiology, early identification, methods and materials, and modes of communication (Braille, large print, low vision aids and new technology) will be stressed. Community and state resources will be incorporated. **Prerequisite: SE 200, SE 210, and SE 220.**

SE 365 Integrated Professional Program 15 credits

The Integrated Professional Program in the Department of Special Education is a program that moves the preparation of special educators from a college-based program to elementary schools in the community. In this setting, students have theoretical, observational, and participatory experiences. When a concept or technique is introduced academically, the students have the opportunity to observe a demonstration in the classroom and to engage in a teaching practice.

The College faculty provide guidance, immediate feedback and further demonstrations. The cooperating practitioner also participates in this experience with the student. The students raise questions based on their academic and participatory experiences and share ideas, problems and learning with other professionals.

The program prepares teachers to meet the educational/social needs of students who manifest learning/behavior problems in the regular elementary classroom environment.

The Integrated Program is a one semester-15 week course/practicum. Students spend three and one half (3½) hours, five days a week for twelve weeks working with children in a regular elementary classroom.

Course Content:

1. Reading
2. Language Arts
3. Identification of Learning Problems
4. Behavior Management
5. Methods and Planning
6. Curriculum
7. Communication Skills

SE 380 Secondary Programs for Adolescents (14-22) with Special Needs 3-3

The college student will attend lectures, complete readings, and participate in discussions related to academic programming for adolescents between the ages of 14 to 22 in a variety of educational settings. Each student will complete a ten-hour supervised academic skill-related practicum in an educational facility.

SE 386 Student Teaching 12 SH

One of the significant aspects of the curriculum is student teaching. All students are assigned to two student teaching stations, each eight weeks in length, and at either the elementary or the secondary level as appropriate. One station is in a "Special Needs" room. The other is a regular classroom that is not a special needs room. The cooperating teachers selected for this program have been carefully screened in respect to certification requirements, their ability as teachers, and their identification with the program. Each student assumes complete classroom responsibility in each station guided by the cooperating teacher and the college supervisor. Students receive certification as elementary teachers with approval as special education teachers.

SE 390 Language Development and Speech 3-3

In this course students will:

(a) Explain normal development of auditory receptive language and auditory expressive language from birth to 7 years;
(b) Analyze linguistic development, phonology, morphology, and syntax;
(c) Compare and contrast various theories of language acquisition;
(d) Select and administer instruments to diagnose receptive and expressive deficits, interpret the results, and plan teaching strategies.

Prerequisite: ECH/Sp. Ed. majors, others by consent of Instructor.

SE 400 Program Development for Children with Learning Problems 3-3

In this course students will:

(a) Explain models of language behavior and determine dysfunctioning in factors associated with language development;
(b) Critically evaluate the research and literature relating to the development of linguistic and perceptual-motor performance;
(c) Interpret, compare, and contrast the theories regarding diagnosis and treatment of learning disabilities;
(d) Select and administer evaluative measures in the cognitive, perceptual and psychomotor domains;
(e) Plan and write education programs for individual children with moderate to severe handicaps based on assessment data;
(f) Make application of the principles of diagnosis and remediation and the theoretical formulations having relevance for learning disabilities in situations dealing with children in the public schools.

Prerequisite: The Integrated Professional Program (Fusion)

SE 405 Issues in Mainstreaming 3-3

Course is designed for Early Childhood and Elementary education majors as a post student-teaching elective. The issues will be applied to the public school system as they relate to the special needs child. Topics will include litigation, Chapter 766, mainstreaming, teacher expectations, accountability, the educational plan, reporting procedures, peer tutoring, human resources, and program models.

SE 410 Severely and Profoundly Handicapped 3-3

This course will define the severely handicapped population, emphasizing their characteristics and needs. The course offers an opportunity, through course work and a weekly practicum, for students to interact with a severely handicapped individ-

ual and develop an assessment, educational plan, and instructional program for that individual. In addition, the course will outline strategies and techniques for changing behavior of children functioning at this level, and will offer suggestions for meeting the needs of these individuals in the total school program. An overview of services now available for the severely handicapped will also be provided. **Prerequisite: SE 200, 210 and SE 220.**

SE 460 Problems in Language Arts for Special Education 3-3
Students identify, develop, use resources related to classroom problems in language areas. Stages of development and deviations of exceptional children are emphasized.

SE 468 Group Process and Counseling of Children with Mild to Moderate Special Needs 3-3
Goals of individual adjustment of exceptional children, evaluation of techniques for gathering and utilizing information, and principles and techniques of using such material in counseling children.

SE 469 Community Resources for the Exceptional Child 3-3
Identification of agencies, practices, and personnel, development of models, simulation of roles, and production of a guide.

SE 496, 490 Independent Study 3 SH
Review, development, and synthesizing of a problem in special education. Open to juniors and seniors with permission of Instructor.

SPEECH

ASSISTANT PROFESSORS: Eugene Casassa, Robert Welch
INSTRUCTOR: Rosemary Reed

SH 01 Speech Improvement 1-1
Remedial course. Students are assigned after diagnosis and recommendations of need for speech improvement. Individual and group therapy.

SH 100 Introduction to Speech Communication 3-3
An introduction to the theory and practice of interpersonal and public communication. Topics include: communication theory, self-concept, perception, language, listening, nonverbal communication, and public speaking.
Meets General Education speech requirement.

SH 110 Argumentation and Debate 3-3
Projects in argumentation and debate with emphasis on analysis, research, evidence, strategies, briefing, refutation, and the delivery of debates on representative questions.

SH 120 Business and Career Communication 3-3
Application of theory and methods of communication to business and career problems. Emphasis is placed on skills especially important to students planning on working for and/or within an organization, such as resume writing, interviewing, and group conference techniques.
Meets General Education requirement for Speech.

SH 130 Effective Speaking for the Electronic Media 3-3
This course will introduce the student to a variety of speaking experiences encountered by those who plan to use the electronic media as part of the performance of an occupation. The course should interest students who anticipate speaking roles in industry-made audio and video productions as well as those who aspire to careers as professional broadcasters. The course will include such assignments as the oral delivery of news items and public service announcements. Major attention will be given to the presentation of narratives coordinated with audio and visual aids. Meets general education speech requirements for those majoring in Communications/Media.

SH 140 Discussion and Conference Techniques 3-3
The fundamentals of group discussion in private and public settings. Emphasis is placed on group structure, leadership, interpersonal relationships, and includes extensive practice in varied group situations.
Meets General Education requirement for Speech.

SH 160 Public Speaking 3-3
A course of value for all students regardless of major. Especially useful to students with an interest in public affairs and a desire to influence the decisions of others. Course concentrates on the development of skills and assurance in public speaking through the preparation and presentation of specific forms of public address. Emphasis is given to audience analysis and rhetorical strategies.
Meets General Education requirement for Speech.

SH 180 Prison Communication 3-3
The study and application of interpersonal communication within the penal system. Special emphasis is placed on role playing techniques to help students gain a greater understanding of prisoner-volunteer-guard-administrator relationships and how each functions within the system. Recommended for those interested in a corrections related career.
Meets General Education requirement for Speech only with permission from the Instructor and student's advisor.

SH 210 Intercollegiate Debate and Forensics 1-1
Opportunities for study and participation in debate and forensic speaking activities.

SH 240 Voice and Articulation
Examination of the elements of vocal production and presentation. Special emphasis on the study of and application of phonetic theory. Designed for the student desiring improved voice and articulation quality, accuracy, and clarity.
Meets General Education requirement for Speech.

SH 260 Persuasion 3-3
A study of the causes of listener belief and action with special emphasis given to the development of strategies to influence listener behavior. Stu-

dents have the opportunity to devise persuasive campaigns on subjects of their choosing.

SH 261 Basic Speech for the Industrial Arts 3-3
Application of methods of communication for the industrial arts. Special emphasis is placed on the basics of articulation and the presentation of technical language and concepts in simplified terms. Idea organization, language use, and delivery techniques are included through extensive practice.
Meets General Education requirement for Speech only with Instructor's approval and permission from student's advisor.

SH 270 Voice and Articulation for the Classroom Teacher 3-3
Examination of children's speech and basic articulatory problems that may arise. Emphasis is placed on common speech problems encountered in the classroom and activities to use for these problems.
Recommended for Elementary and Special Education majors.

SH 280 Rhetorical Criticism 3-3
Exploration of approaches to the rhetorical criticism of significant speeches and speech movements, past and present. Includes rhetorical, literary, historical, linguistic, and quantitative methods of criticism.

SH 420 Children's Theatre 3-3
An introductory course in theatre for children, its principles and practices. Covers aspects of play production for juvenile audiences: script selection and evaluation, directing, acting, and staging techniques.

SH 430 Mime and Movement in Theatre 3-3
A workshop-oriented course utilizing the basic techniques of theatrical mime and movement with emphasis on developing each student's potential for effective physicalization on the stage.

SH 490 Independent Study 3-3

COLLEGE DIRECTORY

BUILDINGS AND GROUNDS

The 90-acre campus includes academic buildings, an administration complex, three residence halls, an apartment residence complex, the library/campus center, an auditorium/theater, a dining commons, and gymnasium. A short distance north of the campus is a 36-acre athletic and recreational area and the McKay Campus School, a cooperative laboratory facility involving college education students and elementary children. The Biology Department maintains a 75-acre field station on the property of the 4-H Camp Middlesex in Ashby.

Anthony Building, 1936, was named for Willis B. Anthony, Director of the Industrial Arts Department, during the period 1909-1947 and serves as a warehouse and supply distribution center and the office of the Athletic Director.

Aubuchon Hall, 1966, was named for William E. Aubuchon, Jr., Trustee of the Massachusetts State College System, 1965-1974, and is a residence hall for 380 students.

Campus Police Headquarters, 1978, is located on the west side of the Campus Quadrangle and also houses the office of the Superintendent of Grounds and the power plant.

Condike Science Building, 1963, named for Dr. George F. Condike, professor of Chemistry 1947-present and Academic Dean 1954-1956, it houses the offices of the Vice President for Academic Affairs and the Dean of Undergraduate Studies and the following academic departments: Biology, Chemistry, Medical Technology, and Computer Science.

Conlon Building, 1976, named for Florence Conlon, professor, 1920-1961, it houses the offices of the Humanities Department, including the Art, Music and Philosophy facilities, the Industrial Arts Department, the Image Systems Department, the photography laboratories and the television studio.

Edgerly Hall, 1900, named for Joseph G. Edgerly, Superintendent of Schools in Fitchburg, 1875 to 1914, it contains the offices of Career Planning and Placement, the Geography Department, the Veterans Administration representative and offices and classrooms for Army ROTC, and the Advising Center.

Hammond Building, 1975, was named for James J. Hammond, Instructor and Commonwealth Professor, 1937-1962; President, 1963-1976; Chancellor of the Massachusetts State College System, 1976-present. The Hammond Building contains the Campus Center, Library, Data Processing Center, Learning Resource Center, the Massachusetts Film and Media Service Cooperative, and the A.I.D. office.

Herlihy Hall, 1957, named for Charles M. Herlihy, Principal, 1927-1932 and President, 1932-1944, it is a coed residence hall and houses 142 students.

Holmes Dining Commons, 1973, was named after Roger Franklin Holmes, Professor of history from 1928 to 1969.

McKay Campus School, 1971, was named for Edith McKay who in 1950 donated ten acres of land to the City of Fitchburg. Besides being a campus laboratory school, the McKay Campus School contains the offices of the Departments of Foreign Languages, Early Childhood, Elementary, Secondary, and Special Education, the Center for the Study and Research in Human Development, the Physics and the Business Administration Departments.

Miller Hall, 1903, was named for Joel D. Miller, a Massachusetts State Senator, 1894-1897 and member of the State Board of Education, 1895-1909, it contains the English, Speech, Mathematics and Social Science Departments, the college Health Center, and The Fitchburg State College Education Association.

Newman Center, 281 Highland Avenue, owned by the Worcester Roman Catholic Diocese, is the Center for the Newman Association and includes an ecumenical chapel, a lounge for studying and socializing, a kitchen and recreation room for all students.

Parkinson Gymnasium, 1957, was named for William D. Parkinson, principal from 1920 to 1927, contains offices and classrooms of the Physical Education Department.

Percival Hall, 1909, was named for Harry F. Percival, professor, 1931-1953, it houses the Behavioral Science Department, including the Psychology, Sociology and Human Services offices.

Russell Towers, 1971, was named for Dean Helen Ross Russell, Professor 1949-1966. It is a coed residence hall for 405 students.

Sanders Administration Building, 1963, named for William J. Sanders, President 1945-1950, contains the offices of the President and his support staff, including the Vice Presidents for Administration and Student Services, the colleges business offices, Registrar, Admissions and Financial Aid Offices.

Thompson Hall, 1895, named for John G. Thompson, principal 1895 to 1920, it houses the offices of the Dean of Graduate and Continuing Education, Director of Field Services, the Nursing Department, and the Communications Media Department.

Town House Complex, 1978, is a 7-building complex, which provides apartment style units for groups of 5, 6, or 7, with a separate bedroom for each member of the group. The apartment buildings are coed, but the sub units in the building are not. The complex has two apartments, designed for the handicapped.

PARKING REGULATIONS

Parking facilities at Fitchburg State College are limited, but are being gradually expanded.

Commuting students are required to obtain identification stickers if they wish to park in student lots on campus.

There are no parking areas assigned to resident students. Junior and senior residents whose curricula require travel to nursing and teaching assignments should confer with the Dean of Students Office.

More specific information is contained in the booklet entitled "Motor Vehicle Regulations."

ANIMALS ON CAMPUS

Due to health and safety considerations, no animals can be allowed on campus or in campus buildings at any time. Obvious exceptions would be seeing-eye dogs and laboratory animals.

MASSACHUSETTS TRESPASS ACT

Fitchburg State College is governed by the Massachusetts Trespass Act, enacted June 2, 1969.

TRESPASSING UPON THE LAND OF CERTAIN INSTITUTIONS

Whoever willfully trespasses upon land or premises belonging to the Commonwealth, or to any authority established by the general court for purposes incidental to higher education . . . . after notice from an officer of any of said institutions to leave said land, remains thereon, shall be punished by a fine or not more than $50 or by imprisonment for not more than three months.

CORRESPONDENCE AND VISITS

The post office and telegraph address of the College is:

Fitchburg State College
160 Pearl Street
Fitchburg, Ma., 01420

The telephone number of the College is: (617) 345-2151.

The following administrators have information on subject matters listed below:

The President:
General interests of the College.

The Academic Dean:
Academic services, faculty and academic professional staff.

The Dean of Undergraduate Studies:
Curriculum, academic work of students.

The Registrar:
Academic records, transcripts.

The Dean of Students:
Financial Aid, scholarships, remunerative work, housing, athletic programs, career planning and placement.

Director of Admissions:
Admission to the freshman class and transfer from another college.

Bursar:
Payment of bills and business matters.

CLASS CANCELLATIONS

In the event of inclement weather the cancellation of classes will be reported on WBZ, WEIM, WFGL, WTAG, WGAW, WEEI and WLMS radio stations.

ADMINISTRATION

OFFICE OF THE PRESIDENT

VINCENT J. MARA, President
B.S.Ed., Ed.M., Worcester State College; Ph.D., University of Connecticut. 1976

PATRICK F. DELANEY, JR., Vice President, Academic Affairs
A.B., Providence College; A.M.I., Ph.D., Brown University. 1979

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B.A., University of Northern Iowa; M.A., Ph.D., Michigan State University. 1978

JOHN J. BOURSY, Vice President, Administration and Finance
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ACADEMIC AFFAIRS

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TERRY GRABAR B.A., Wellesley College; M.A., Ph.D., University of Michigan. Professor, English. 1970

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PIERRE PINET B.A., University of New Hampshire; M.A., University of Pennslyvania; M.A., Rivier College. Associate Professor, French. 1961

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JEANNETTE SCHARF Licenciada en Literatura, University Nac. Cordoba, Argentina; M.A., Queens College (C.U.N.Y.) 1973

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DONALD SCHMIDT B.A., M.A., State College of Iowa; Ph.D., University of Iowa. Professor, Biology. 1967

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JAMES SHEEHAN B.S., Ed.M., Boston University. Assistant Professor, Physical Education. 1973

LOUIS SHEPHERD B.S.Ed., Kansas State Teachers College of Emporia; A.M., Columbia University. Associate Professor, English. 1952

EILEEN SJOBERG B.S., Fitchburg State College; M.S.N., University of Massachusetts. Assistant Professor, Nursing. 1976

RICHARD SPENCER B.A., M.A., Alfred University; Ph.D., State University of New York at Buffalo. Associate Professor, Psychology. 1972

PETER SPOERRI B.S., Brooklyn Polytechnical Institute; M.S., Oregon State University; Ph.D., Brooklyn Polytechnical Institute. Assistant Professor, Computer Science. 1980

CHARLES STREFF B.A., M.Ed., Mt. Carmel College; M.A., Ph.D., Boston College. Associate Professor, Psychology. 1973

ROBERT STRONG B.A., Central Washington State College; M.S., Oregon State University; Ph.D., University of the Pacific. Associate Professor, Chemistry. 1973

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WILFRED THIBEAULT B.S., Keene State College; M.Ed., University of Massachusetts. Instructor, Communications/Media. 1976

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EDMUND THOMAS B.S., John Carroll University; M.A., Kent State University; Ph.D., Clark University. Associate Professor, History. 1967

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COLETTE TILTON B.S.N., University of New Hampshire; M.S.N., Boston University. Instructor, Nursing. 1977

DOLORES TORTI B.S.N., Georgetown University; M.S., Boston University. Assistant Professor, Nursing. 1973

CYNTHIA TOWER B.A., Western College for Women; M.S.W., University of Connecticut. Assistant Professor, Behavioral Sciences. 1978

ESMAIL VALANEJAD B.S., University of Birmingham (England); Ph.D., Princeton University. Chairman and Professor, Physics. 1968.

MILDRED VINSKEY B.S., Worcester State College; M.Ed., Ed.D., University of Massachusetts. Professor, McKay Campus School. 1967

GARY VOSTOK B.S., B.A., Clark University; M.B.A., Babson College, C.P.A. Instructor, Business Administration. 1979

ANDREA WALLEN B.S., San Francisco State University; M.S.N., University of California. Instructor, Nursing. 1977

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JACK WESCOTT B.S., M.A., Western Michigan University; Ph.D., University of Maryland. Associate Professor, Industrial Arts. 1976

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MICHELE ZIDE B.A., Mount St. Mary College; M.S., Boston College; Ed.D., University of Massachusetts. Associate Professor, Special Education. 1973

ROBERT ZOTTOLI B.A., Bowdoin College; M.S., Ph.D., University of New Hampshire. Professor, Biology. 1965

COLLEGE LIBRARIANS

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Faith Anttila
Robert A. Foley
Jeremiah E. Greene
Bruce R. McSheehy
Gloria Provencher
Eleonora Saari
Sarah Ann Sodano
Joan Thomas
Barbara Tirronen
Eini Woods

PART-TIME FACULTY

SANDRA AUSTIN B.S.N., University of Virginia; M.S.N., University of California. Part-time Instructor, Nursing. 1976

MICHELE BRADY B.S.N., M.S.N., Boston University. Part-time Instructor, Nursing. 1976

GAIL CONSOLATTI M.S.N., Boston University School of Nursing; B.S.N., Texas Christian University. Part-time Instructor, Nursing. 1977

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MILDREN MARION B.S.Ed., Fitchburg State College; M.A., Assumption College. Part-time Instructor, Nursing. 1972

JUDITH MIZHIR B.S., M.S., Boston University School of Nursing. Part-time Instructor, Nursing. 1974

BARBARA POWERS B.S., Nursing, University of North Carolina; M.S., Boston College. Instructor, Nursing. 1974

DONA STEIN A.B., M.A., Clark University. Part-time Instructor, English. 1976

CLINICAL FACULTY

GLORIA BRAVO A.B., Worcester State College

CHRISTINE CARTER B.S., S.U.N.Y. at Buffalo; M.S., Northeastern University

KENNETH CROWLEY B.A., St. Anselm College

EDWARD J. HANCHAY B.S., University of Massachusetts

DOROTHY LALCOMA B.A., College of Our Lady of the Elms; MST, American International College

ANNE POLLOCK A.B., University of Maine

JOAN SIMPSON B.S., M.S., University of Massachusetts

PROFESSORS EMERITI

JOSEPHINE A. BOLGER, A.M., Professor Emerita of Physical Education

HELEN F. CARNEY, Ed.M., Professor Emerita of Education

FLORENCE D. CONLON, Ed.M., Professor Emerita of Art

MICHAEL CONLON, A.M., Professor Emeritus of Philosophy

CATHERINE COX, A.M., Professor Emerita of Geography

VEVA K. DEAN, Ph.D., Professor Emerita of Geography

DAYTON N. DENNETT, Ph.D., Professor Emeritus of English

RUTH M. DONOVAN, Ed.M., Professor Emerita of Physical Education

ALBERT A. DUNLAP, Ph.D., Professor Emeritus of Biology

ROBERT G. ELLIOTT, A.M., Professor Emeritus of Physical Education

GERTRUDE L. FISKE, A.M., Professor Emerita of Domestic Science

HELEN W. FOOT, Ed.M., Professor Emerita of Education

CLIFFORD W. HAGUE, Ed.M., Professor Emeritus of Industrial Arts

ARTHUR C. HARRINGTON, A.M., Professor Emeritus of History

DANIEL L. HEALY, E.d.M., Professor Emeritus of English

RUTH F. HOFFMAN, B.S., Professor Emerita

BERNICE M. KRAWIEC, M.S., Professor Emerita of Nursing

LAWRENCE LANDALL, B.S., Professor Emeritus of Industrial Arts
SR. MARY ALBERT LENAWAY, Ph.D., Professor Emerita of Education
ANNA PHILBIN, Ed.M., Professor Emerita of Education
BELLE NIXON PHILLIPS, Ed.M., Professor Emerita of English
ELIZABETH QUATTLANDER, Ed.M., Professor Emerita of Education
MARY L. ROACHE, Ed.M., Professor Emerita of Education
KATHERINE N. SEHL, Ed.D., Professor Emerita of Nursing
ANNA G. SIMMONS, A.M., Professor Emerita of Geography
SIGNE ANTILA SIPILA, Ed.M., Professor Emerita of Education
GEORGE F. STEFFANIDES, Ed.M., Professor Emeritus of Biology
LILLIAN TATER, Ed.M., Professor Emerita of English

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PL 350 Contemporary Ethical Systems 3-3
Moral experience and reflective ethics; survey and critical evaluation of major ethical theories; ethics and science.

PL 359 Modern Philosophy 3-3
Trends of modern thought since the Renaissance, including Descartes, Locke, Spinoza, Leibniz, Hume, Kant, and Hegel. **Prerequisite: PL 100.**

PL 360 Contemporary Ethical Problems 3-3
Application of ethical thinking to some of today's major social and personal issues including crime and punishment, civil disobedience, prejudice and discrimination, sex, abortion, war, and suicide and death.

PL 361 Contemporary Philosophy 3-3
An examination of some current trends and issues in contemporary American, British, and European philosophy. **Prerequisite: PL 100.**

PL 400 Existentialism 3-3
Origin of contemporary existentialism; its leading ideas as seen in writings of such philosophers as Kierkegaard, Jaspers, Marcel, Sartre, and Camus. **Prerequisite: PL 100.**

PL 410 Philosophy of Art 3-3
An examination of the interpretations of esthetic experience presented by such thinkers as Aristotle, Tolstoy, Shiller, Bergson, Spengler, and Dewey. **Prerequisite: PL 100.**

PL 420 Political and Social Philosophy 3-3
The various political and social ideas beginning with Plato and continuing to Marx. **Prerequisite: PL 100.**

PL 430 Philosophy of Science 3-3
An analysis of the methods and goals of the physical sciences, how they differ from the social sciences, and the philosophic problems encountered in scientific pursuits.

PL 440 Philosophy of Language 3-3
The role played by language in human knowledge and the increased emphasis on the analysis of language in recent philosophy. **Prerequisite: PL 100.**

PL 441 Plato 3-3
Plato's theory of idea, theory of knowledge, ethical and political views, doctrine of the fine arts. **Prerequisite: PL 100.**

PL 442 Aristotle 3-3
A study of Aristotle's philosophy as seen in his Metaphysics, Politics, and Nicomachaen ethics. **Prerequisite: PL 100.**

PL 443 Marxism 3-3
A study of Marx's thought, its origins, development, and contemporary applications. **Prerequisite: PL 100.**

PL 444 Early American Philosophy 3-3
A study of American thought from the Colonial Period through 19th century.

PL 445 Contemporary American Philosophy 3-3
An examination of the current trends and issues in American thought.

PL 446 American Pragmatism 3-3
An analysis of the thought of Peirce, James, and Dewey. **Prerequisite: PL 100.**

PL 447 Seminar/Special Topics 3-3

PL 450 Philosophy of Love 3-3
An analysis of the concept "love" as employed in the social and moral philosophies of various classical and contemporary thinkers. **Prerequisite: PL 100.**

PL 460 Philosophy of Religion 3-3
The God-problem and religious experiences as seen in the classical philosophers and in the philosophies of existentialism and pragmatism. **Prerequisite: PL 100.**

PL 466 Man & Nature
Man and Nature will be based, in part, on the *Ascent of Man* film series by Jacob Bronowski. It will cover a broad range of topics centering on those discoveries, ideas, and events which have been crucial to the development of modern civilization. Subjects as diverse as astronomy, romantic poetry, Einstein's Theory of Relativity, contemporary philosophy, and the human brain will be covered in such a way that the student is given a framework with which to understand and interrelate them. The Man & Nature course, a nine credit hour course combining science and humanities, fulfills three Math/Science and six Humanities credits for the General Education requirements, or the credits may be used as electives.

PL 468 Adventures in Ideas 6-6
A study of the major ideas of Western man and their influence on our lives and our thoughts. Each semester several basic modes of thought are studied and the class explores how each idea manifests itself in literature, science, philosophy, etc. Classes are combinations of lecture and group discussion with considerable emphasis placed on individual student exploration of these major ideas.

PL 489 Comparative Religious Experiences 3-3
This course studies the principal religions of mankind: Buddhism, Islamism, Judaism, and Christianity; their basis tenets and insights into spiritual values.

PHYSICAL EDUCATION

CHAIRMAN AND PROFESSOR: Thomas Battinelli
ASSOCIATE PROFESSOR: Lee Cunningham
ASSISTANT PROFESSORS: Joyce Downey, Barbara Nole, James Sheehan
INSTRUCTOR: Janice Onuska

Physical Education Specialization

The Fitchburg State College Physical Education Specialization is designed to provide students with an opportunity to pursue:

1. Study in an alternative field of interest;
2. Prerequisite study for further graduate work.

The course requirements are: Exercise and Sport Science (3); Overview of Physical Education (3); Behavioral Concepts of Sport (3); Athletic Training and Conditioning (3); and Physical Activity Skills (6).

Human Services majors may substitute Recreational Leadership and Camp Counseling as requirements.

Physical Education Courses

PE 100 Health and Fitness 3-3
A basic survey of the effects of diet, exercise and selected environmental agents upon human, mental and physical health. Topics may include body build and body composition, fitness evaluation and programming, nutritional considerations, psychological correlates of health, chemical alternations, human sexuality, and personal and public health.

PE 200 Adaptations 3-3
The human organism is examined in terms of its adaptation to acute and chronic stress. Physiological responses to such stressors as exercise, heat, and dark, altitude and nutrition are studied theoretically and in a laboratory setting.

PE 226 Officiating Basketball and Volleyball 3-3
The philosophy and techniques of officiating basketball and volleyball for women. DGWS rules are used for both sports, and an opportunity is presented to take the written and practical national examination to obtain a rating in either or both sports.

PE 300 Constitutional Morphology 2-1
An overview of the study of the size and shape of the human body will be presented. Skeletal, physique, lean body, weights and percentage of body fat assessments will be made in relation to physical activity.

PE 301 Introduction to Kinesiology 2-1
An overview of the study of the mechanics of human motion will be presented. This course is designed to integrate Kinesiological principles to the teaching of selected motor activities.

PE 302 Consumer Health 2-1
This course is designed to help the student evaluate health information critically, and select products and services wisely. The past, present, and future of quackery will be explored especially in the areas of food, cosmetics, and chronic disorders. Laws and protection agencies, governmental and private, will be surveyed.

PE 303 Motor Learning and Motor Performance 2-1
The neuromuscular integration of human movement in reference to components and factors related to the learning of motor activities will be investigated.

PE 304 Diet, Exercise and Weight Control 2-1
The course is designed for those interested in weight loss or weight maintenance through the medium of diet and exercise. After an initial assessment of body composition, endurance fitness and the establishment of dietary goals, each student will work toward the normalization of body weight through actual programs of exercise and diet.

PE 305 Figure Control Through Weight Training 2-1
The theory of weight training and diet in relation to figure control will be discussed. Each students will have physique, body composition, aerobic fitness and muscular strength evaluation before and after a weight training program.

PE 306 Weight Training for Athletes 2-1
Theory for the development of muscular strength for specific athletic activities. Anthropometric, body composition, and muscular strength evaluations will be undertaken prior to and following an individually developed weight training program.

PE 307 First Aid and Safety 2-1
A behaviorally oriented course structured for those responsible for the safety and protection of others. Satisfactory completion, with official Red Cross certification, is required for all students in all curricula except Nursing, Medical Technology and all Bachelor of Arts programs. Education majors must have completed a First Aid course at the college or elsewhere prior to student teaching.

PE 308 Behavioral Concepts of Sport and Fitness 3-3
This course is designed to aid the student in understanding the psychological and sociological behaviors common to the realms of sport and fitness. Concepts of competition, cooperation, motivation, social stratification and interaction will be examined. Also, a variety of observational techniques will be used in the analyzation of behavioral reactions.

PE 309 Physical Education for the Orthopedically Handicapped 1-2
The course will include an overview of congenital, postural, and degenerative orthopedic problems. It is designed to aid the student plan suitable corrective exercises and activity programs for people with these special needs.

PE 311 Sports Concepts 2-1
Physical activity skills for team sports will be viewed from the physiological and values perspective. Students will practice physical activity and value techniques.

PE 400 Exercise and Sport Science 3-3
Basic exercise physiology is explored as it relates to the health professions. Theoretical topics include orientation to exercise, movement and energy production, neurological aspects of movement, and circulatory, respiratory, and hormonal factors in exercise. Practical topics include: cardiovascular stress testing, nutrition and weight control, physique and body composition, fitness programming, the female in sports, the influence of activity on growth, evaluation of muscular strength, respiratory responses to exercise, and environmental effects such as altitude and temperature.

PE 401 Athletic Training and Conditioning 3-3
A course designed to discuss the principles of injury prevention and care, the physiology of

training, and nutritional considerations as they apply to athletics.

PE 402 Jogging: Theory and Practice 3-3
The scientific basis for cardiovascular training programs using jogging as the mode of activity will be presented. Prepost cardiovascular and body composition evaluations and individualized jogging programs will be designed.

PE 404 Fundamentals of Coaching 3-3
An analysis of the principles and practices of coaching in various sports will be presented for the prospective teacher-coach.

PE 405 Recreational Leadership 3-3
The organization and administration of recreational activities will be presented in reference to the development of the principles and practices in both school and community programs. Leadership experience with school and community programs will also be offered.

PE 406 Camp Counseling 3-3
Course content provides an opportunity to study some of the problems in the Field of Camping, to acquire skills essential in camp life and to develop leadership in individual and group work. Actual camping experience is gained by attendance at two weekend sessions of a local camp.

PE 407 Physical Education: An Overview 3-3
Designed to provide the student with an overview of the philosophic history, administrative patterns, current curriculum approaches, teaching and learning concepts, and innovative trends in physical education.

Activity courses are taught on a half-semester basis. Each half semester carries 2 clock hours and ½ credit.

Physical Conditioning
Soccer
Basketball
Volleyball
Softball
Tennis
Advanced Tennis
Badminton
Karate
Judo
Gymnastics
Slimnastics
Rhythmics
Aerobics
Folk Dance
Recreational Sports
Canoeing
Tumbling
Introduction to Mountain Hiking
Backpacking
Downhill Skiing
Cross Country Skiing
Modern Jazz
Horseback Riding
Bicycle Touring

PHYSICS

CHAIRMAN: Esmail Valanejad
ASSOCIATE PROFESSORS: Theodore LaPierre, Robert Shaughnessy, Esmail Valenejad
ASSISTANT PROFESSORS: Norman Fredette, Karl Linquist

The degree of Bachelor of Arts in Physics must include PH 110, 120, 150, 210, 220, 230, 310, 320, 340, 450; MA 230, 240; CS 240, 250, and a Physics elective from PH 260, 330, 350, 420, 430, 440. The Bachelor of Arts degree also requires foreign language proficiency at the second year college level.

The degree of Bachelor of Science in Physics must include PH 110, 120, 150, 210, 220, 230, 310, 320, 340, 450; MA 230, 240; CS 240, 250, CH 110, 120; and two Physics electives chosen from PH 260, 330, 350, 420, 430, 440.

The degree of Bachelor of Science in Education, Secondary, in Physics must include PH 110, 120, 150, 210, 220; CS 240, 250, 340, 410; MA 230, 240; PH 230, 260, 310, 320, 330, 420, 430, 440 or 450. The degree also includes ED 301, ED 386 and CM 020.

PH 101-PH 102 Physical Science I and II 3-4 each
For the non-scientist. Emphasis is upon the building of conceptual models, solving techniques, and the processes of science.

PH 103 Astronomy 3-4
A study of planetary motion, the sun, stars, and galaxies. An observing program. A background of algebra is assumed.

PH 110 Introductory Physics I 3-4
An introduction to an analytical study of Newtonian mechanics and the properties of matter. A working knowledge of algebra is assumed. Elements of trigonometry are considered in the course.

PH 115 Environmental Physical Science 3-4
The study of (1) the environment, (2) the effects of pollution on the environment, ecosystems, and natural balance and (3) relevant background material in physical science as needed. **Prerequisite: Physical Sci. I, Earth, Sea and Air, or equivalent.**

PH 120 Introductory Physics II 3-4
An introduction to an analytical study of wave motion, electricity and modern physics. A working knowledge of algebra and trigonometry is assumed.

PH 130 General Physics I 4-5
Mechanics: Straight line motion; circular motion; Kepler's law of planetary motion; universal gravitation; work; energy; power; conservation of energy and momentum; simple harmonic motion. Hydrostatics and hydrodynamics: Archimedes' principle, Bernouli's equation, viscosity, Stokes law, Reynolds number.

PH 140 General Physics II 4-5
Electricity and Magnetism: Coulomb's law, electric field, electric potential, capacitance, electric circuits, magnetic field, magnetic forces on a current-carrying conductor, magnetic field of a current, induced e.m.f., magnetic properties of matter. Heat and thermodynamics: heat and heat measurements; transfer of heat; thermal properties of matter; the laws of thermodynamics; kinetic theory of gases. **Prerequisite: PH 130.**

PH 150 General Physics III **4-5**
Wave motion: waves, vibrating bodies, electromagnetic waves. Geometrical Optics: Laws of reflection and refraction; mirrors; lenses; optical instruments; eye and its optical defects and their correction; illumination and color. Physical Optics: interference and diffraction; polarization. Atomic and Nuclear Physics: atomic spectra; the Bohr atom; Compton effect; X-rays; radiation hazards. **Prerequisite: PH 140.**

PH 210 Applied Mathematics I **3-3**
Trigonometry: Definitions, trigonometric identities; trigonometric equations; trigonometric tables and their construction. Solution of a triangle, quadrilateral, etc. Application to optics. Determinants; applications. Vector Algebra: addition; dot and cross products of vectors. Graphing of polynomials, bipolynomials, rational and irrational functions. Construction of graphs from empirical data, applications.

PH 220 Applied Mathematics II **3-3**
Rules for differentiation of functions of one variable maxima and minima-Taylor expansion of functions. Differentiation of function of several variables—error analysis. Binomial Theorem, exponential and logarithmic functions applications to radioactive decay and Newton's law of cooling, etc. Analytical geometry: Cartesian coordinates; equation of a line; conic sections; etc.

PH 230 Applied Mathematics III **3-3**
Rules for integration by parts, change of variable, partial fractions, trigonometric substitutions, reduction, differentiation under the integral sign. Application: Uncertainty relations; lasers; etc. Differential equations: motion through a resistive medium; an electrical circuit; flow of heat in pipes; radio-active decay; etc.

PH 260 Electronic Physics III—Digital Electronics **3-4**
Fundamental theory and application of digital circuits, diode and transistor gates, flip flops, analysis and synthesis of logic circuits using integrated circuits. **Prerequisite: Electronic Physics II, or a course in basic electronics.**

PH 310 Intermediate Mechanics **3-3**
Calculus and delta methods are used in an analytical study of Newtonian mechanics with application to nonconservative forces, central forces, and rotational dynamics. **Prerequisite: PH 130 or equivalent.**

PH 320 Vibrations and Waves **3-4**
Linear oscillator, free and forced oscillations, damping, vibrating string, traveling and standing waves. Fourier analysis, introduction to wave optics, lab work in physical optics. **Prerequisite: PH 310.**

PH 330 Quantum Mechanics **3-3**
Inadequacies of classical physics, uncertainty principle, Schrodinger equation, physical interpretation of wave function, energy levels, harmonic oscillator, hydrogen atom, perturbation theory. **Prerequisites: PH 150 and PH 220 or MA 240.**

PH 340 Seminar in Physics **1-1**
Oral and written presentation of topics on recent developments in the field of physics. Required of all physics majors. **Prerequisite: Junior standing in physics.**

PH 350 Electricity and Magnetism **3-3**
After a preliminary introduction to vector algebra, electrostatic as well as magnetostatic fields in vacuum and material media are discussed. Maxwell's equations and propagation of electromagnetic waves are considered.

PH 410 Physics for Secondary Teachers **3-4**
Concepts and laboratory work in physics specifically oriented to programs currently being offered or being developed in secondary schools.

PH 420 Statistical Mechanics and Thermodynamics **3-3**
Laws of thermodynamics, entropy, Carnot cycle, kinetic theory of gases, Bose and Fermi gases, low temperature physics. **Prerequisite: PH 310.**

PH 430 Atomic and Nuclear Physics **3-3**
Electronic configuration of the atoms: Pauli principle; shell model of nucleus; radioactivity; elementary particles. **Prerequisite: PH 330.**

PH 440 Solid State Physics **3-4**
Short review of quantum mechanics, crystal structure, magnetism, semiconductor theory, specific heat of solids. **Prerequisite: CS 250.**

PH 450 Advanced Laboratory **3-5**
Selected experiments from different areas of physics; required of physics majors on B.A. program. **Prerequisite: CS 250.**

PH 488 Physics Methods **3-3**
Methods of teaching physical sciences at the secondary level. Includes a survey of modern secondary science curriculum. **Prerequisite: CM 020.**

POLITICAL SCIENCE

ASSISTANT PROFESSOR: Shirley Haslip

Courses in political science are intended for any student with a general interest in politics and government. They are also designed to provide a proper background for students interested in pursuing graduate study or a career in law, public administration, or government and political science. It is recommended that these students take six hours of Modern American Government and six hours of electives.

Modern American Government, PS 100 and PS 200 or the consent of the Instructor are required for all other courses in Political Science.

PS 100 Modern American Government: State and Urban Government **3-3**
Focus upon current issues in urban and state government and politics and attempts to evaluate proposed solutions.

PS 200 Modern American Government: The Federal Government **3-3**
Growth and complexity of the functions performed by the branches of the national government: Congress; President; and Supreme Court. Examination of the crucial role of the President today in national and world affairs. Attention given to current political campaigns. N.B. PS 100

and 200 or the consent of the Instructor are required for all other courses in Political Science.

PS 210 Public Policy Analysis: Case Studies in American Politics 3-3
Covers four major divisions of public policy: health, education, labor, and welfare. The aim is to attain an understanding of how the American political system works through a study of the policy that has come out of that system.

PS 220 Constitutional Law and the Supreme Court 3-3
Treats the Constitution as a living document, tracing its development through historic Supreme Court decisions.

PS 250 Legal Internship 6-12
Internships are available in several regional law offices for those persons interested in para-legal work. These internships prepare students for positions in law offices, public administration, and other human service work. Credit is either 6 or 12 semester hours depending upon arrangements with the Social Sciences Department.

PS 300 International Law and Organization 3-3
A study of the pioneering political institutions which have been fashioned to cope with the issues of world interdependence.

PS 320 Contemporary International Relations 3-3
A study of critical problems confronting the present international system. The "Cold War," armed conflict, internal violence, as well as prospects for the resolution of conflict are explored. Simulational gaming exercises and class discussions supplement readings.

PS 330 Foreign Intelligence and National Security Affairs 3-3
The defense and foreign affairs of the U.S. and U.S.S.R. Nuclear weapons, arms control, civil-military relations, terrorism, policy, and decision making are studied. Special attention is given to foreign intelligence and espionage. Current problems in international and national security affairs are discussed.

PS 350 Political Systems of the Modern World 3-3
A comparative analysis of modern national governments such as the Soviet Union, France, Germany, and Great Britain. Importance of the world's political heritage and the implications for the emerging nations of liberal democracy, communism, and dictatorship.

PS 360 Civil Rights and Civil Liberties in the United States 3-3
Conceptual perspectives of civil rights and civil liberties, freedom of expression and the problem of loyalty and security, equality, the civil rights movement, criminal justice procedures, and the politics of civil rights and liberties.

PS 400 Principles of Administration 3-3
An introduction to administration is presented. Leadership, authority, change, and communications are among the topics discussed. The course includes case studies and problem-solving from such fields as allied health, business, law-enforcement, and government service.

PS 489 Internships in Political Science
Off-campus opportunities, carrying appropriate academic credit, are available in local, state, and federal government offices and with political campaigns. Open to students who have the permission of the department. Credit and hours by special arrangement.

PS 490 Independent Study in Political Science
Open to students who have the permission of the supervising instructor and the department. Course of study, meetings, and credit by arrangement.

PSYCHOLOGY

COORDINATOR: Charles Streff
PROFESSORS: Harry Crowley, John Dufault, E. Arthur Garvin, Paul Girling, Donald Isaac
ASSOCIATE PROFESSORS: Alan Bernstein, G. Jefferson Breen, Mary Ann Hanley, David Maloney, Mabel Sgan, Richard Spencer, Charles Streff
ASSISTANT PROFESSORS: David Bakken, Carol Gay, Richard Kruse, Donna-Lee McCabe

The degrees of Bachelor of Arts and Bachelor of Science in Psychology require thirty-seven semester hours of course work in Psychology (NOTE: The Bachelor of Arts degree requires foreign language proficiency at the second year college level). The program is divided into two groups of courses with special requirements, integrative or pre-professional courses, and related electives.

GROUP I: All courses required

PY 110 General Psychology
PY 214 Intro. to Research Methods
PY 340 Psychological Statistics
PY 441 Experimental Psychology
PY 448 History & Systems in Psychology

GROUP II: At least one course required from each area.

Area 1: Developmental
PY 220 Human Growth & Development
PY 221 Child Psychology
PY 223 Adolescent Psychology
PY 224 Adult Psychology
PY 225 Psychology of Women
PY 226 Gerontology
PY 232 Death and Dying

Area 2: Adaptive
PY 216 The Psychology of Speech & Communication
PY 335 Abnormal Psychology
PY 336 Mental Health: A Social-Psychological Perspective
PY 355 Group Dynamics
PY 265 Social Psychology
PY 373 Psycho-Social Problems of Urban Children

Area 3: Basic Processes
PY 342 Physiological Psychology
PY 350 Psychology of Learning

Area 4: Applied Studies
PY 215 Introduction to Speech Pathology
PY 345 Psychological Testing
PY 360 Industrial and Organizational Psychology

PY 371 Learning Theory and Its Application
PY 377 Principles of Guidance

The remainder of the thirty-seven credits should be taken among the above areas or from the following integrative or pre-professional courses and from the related electives. An integrative or pre-professional course is recommended.

Integrative or Pre-Professional Courses

PY 422 Advanced Child Psychology
PY 480 General Psych. Teaching Practicum I
PY 481 Seminar in Developmental Psychology
PY 482 Practicum in Developmental Psychology
PY 483 Practicum in Experimental Psychology
PY 487 Internship in Psychology I
PY 489 Internship in Psychology II
PY 400 Topics in Psychology

Related Electives

ED 211 Behavioral Science in Early Childhood I
ED 311 Behavioral Science in Early Childhood II
PY 275 Tests and Measurements

The Related Electives area would also include seminars, independent study, and other courses approved by the Psychology Curriculum Committee.

Course Descriptions

PY 110 General Psychology 3-3
The science of human behavior. Scientific method, maturation, motivation, emotions, sensation, learning, personality, and adjustment. This course is a prerequisite for all other courses in psychology.

PY 214 Introduction to Research Methods 3-3
Research design, including consideration of sampling procedures, questionnaire design, methods of observation and reporting. **Prerequisite: PY 110.**

PY 215 Introduction to Speech Pathology 3-3
An orientation to speech pathology by identification and referral procedures for primary speech problems, examination and observation of speech therapy procedures. Clinical point of view is stressed. **Prerequisite: PY 110.**

PY 216 The Psychology of Speech and Communication 3-3
This course provides information for judging speech behaviors of self and others. Concepts of speech, language and communication, healthy speaking and listening behaviors, non-verbal communication, animal communication, linguistic and psycholinguistic theory. **Prerequisite: PY 110.**

PY 217 Speech Pathology Principles and Practicum 3-3
This course provides students from allied disciplines with beginning skills for remediation of milder communication disorders in children. Under qualified supervision and from appropriate research, students assist in diagnostic evaluations, case history information, plus other report writing, and aspects of speech therapy planning and implementation. **Prerequisite: PY 215.**

PY 220 Human Growth and Development 3-3
A study of the physical, physiological, social, and psychological development of the individual from conception to old age. **Prerequisite: PY 110.**

PY 221 Child Psychology 3-3
Emphasis on theories and research in child development, and their application to the understanding and guidance of development in normal children. **Prerequisite: PY 110.**

PY 223 Adolescent Psychology 3-3
Adolescence as a cultural phenomenon and as a stage of development is investigated, with the aim of understanding the impact of current theoretical emphasis and trends, physical and sexual development of emerging youth in their search for identity. **Prerequisite: PY 110.**

PY 224 Adult Psychology 3-3
A study of the major theories of adult development, with emphasis on problems and pressures of middle years. **Prerequisite: PY 220 or PY 221 or PY 223.**

PY 225 Psychology of Women 3-3
Objectives involve an increased awareness of the psychological development of women and of the dimensions of self and personhood in relation to society; the examination and analysis of issues relative to current debate concerning the status of women. **Prerequisite: PY 110.**

PY 226 Gerontology: the Psychology of Growing Old 3-3
This course introduces the student to psychological aspects of growing old in our society. Topics for investigation include intelligence and memory, personality differences, altered life styles, disengagement theory, reactions to stress and loss through death. Emphasis is on the normal aging process rather than the pathological. **Prerequisite: PY 110.**

PY 230 Psychology of Personality 3-3
Dynamic factors in personality formation are studied through some of the leading theoretical positions on personality development. **Prerequisite: PY 110.**

PY 232 Psychology of Death and Dying 3-3
Through lectures, readings, discussions, and media, students explore psychological theory, research, and personal feelings concerning the dying process, suicide, grief, sudden death, and dying as it influences persons at different developmental stages. **Prerequisite: PY 110.**

PY 265 Social Psychology 3-3
Psychological constructs and concepts applied to the interaction between human beings. **Prerequisite: PY 110.**

PY 275 Tests and Measurements 3-3
A study of the basic statistical concepts and techniques of measurement, with application to teacher-made tests and standardized tests used in education and psychology. **Prerequisite: PY 110.**

PY 335 Abnormal Psychology 3-3
Normal, neurotic, and psychotic behavior and methods of psychotherapy are reviewed. Techniques for maintaining optimal psychological health. **Prerequisite: PY 110.**

PY 336 Mental Health: A Social-Psychological Perspective 3-3
Theoretical concepts and research in current social psychology are applied to a consideration of definitions and diagnosis, causes and treatment of mental illness, and to a consideration of the determinants of problematic behavior. Labelling theory is also considered, as applied to mentally ill persons. **Prerequisite: PY 110, PY 335 or PY 265, and permission of Instructor.**

PY 340 Psychological Statistics 3-3
Introduction to applied statistics; statistical treatment of data; descriptive statistics; basic inferential statistics up to and including analysis of variance. **Prerequisite: PY 114.**

PY 342 Physiological Psychology 3-3
Relationship between behavior and the structure and function of the organism's nervous system; emphasis on the physiological basis of learning, motivation, emotion, motor activity, and perception. **Prerequisite: PY 110.**

PY 343 Perception 3-3
Principles related to man's awareness of his world. Topics to be considered are psychophysics, the relationship between motivation and perception, the sensory bases of perception and localization in space. **Prerequisite: 15 credits in psychology.**

PY 345 Psychological Testing 3-3
Laboratory course in the theory, administration, and interpretation of group and individual tests used in studying certain behavior characteristics. **Prerequisite: PY 275 or PY 340.**

PY 350 Psychology of Learning 3-3
Principles and theories of learning, classical conditioning, operant conditioning, verbal learning, acquisition of motor skills. **Prerequisite: PY 110.**

PY 355 Group Dynamics 3-3
The nature and dynamics of interpersonal relationships are revealed in typical group settings such as classrooms, workshop seminars, and other discussion-oriented groups. Emphasis is on both content and process as demonstrated in a laboratory learning environment. **Prerequisite: PY 110.**

PY 360 Industrial and Organizational Psychology 3-3
Psychological principles and techniques used in selection and placement of employees: psychological tests; worker motivation and adjustment; training; morale; accident prevention; job efficiency. **Prerequisite: PY 110.**

PY 371 Learning Theory and Its Applications 3-3
The principles and theories of learning, as derived by both the laboratory psychologist and the educational researcher, as applied to various social settings: the classroom, the family, etc. **Prerequisite: PY 110.**

PY 373 Psycho-Social Problems of Urban Children 3-3
The experience of the inner-city child is studied in relation to housing, schools, and teachers; emergence of the "alternative school" and other attempts to help children. Students participate in a two-hour weekly seminar and work for at least five hours in the community. **Prerequisite: PY 110.**

PY 377 Principles of Guidance 3-3
Introductory course for students interested in developing their skills in helping relationships in a one-to-one relationship and or in a group setting. **Prerequisite: PY 110.**

PY 400 Topics in Psychology 3-3
Seminar dealing with contemporary issues in psychology. Specific topics will vary from semester to semester, depending on the instructor. **Prerequisite: Variable-permission of Instructor.**

PY 422 Advanced Child Psychology 3-3
An expansion and continuation of the major topics in child psychology. Opportunities for individual projects and experiences with children will be provided. **Prerequisite: PY 221.**

PY 441 Experimental Psychology 4-4
The scientific method, experimental designs, and laboratory methods in behavioral science, emphasizing laboratory experiments and scientific communication of results. **Prerequisite: PY 340 or permission of Instructor.**

PY 448 History and Systems of Psychology 3-3
A consideration of contemporary psychology as seen in its historical perspective. The development of psychological concepts and theories is traced from their antecedents in philosophy, theology, and the physical sciences. **Prerequisite: Junior or Senior standing, 15 credits in psychology.** Taught fall semesters only.

PY 480 General Psychology Teaching Practicum 6-15
Assistantship in the teaching of General Psychology. **By appointment by staff only.**

PY 481 Seminar in Developmental Psychology 3-3
Seminar dealing with contemporary problems in developmental psychology. Specific topics vary from semester to semester. **Prerequisite: Permission of Instructor.**

PY 482 Practicum in Developmental Psychology 6-12
Experience in practical application of basic principles of human development. Students work with staff in areas of mutual interest. Preference given to students having taken PY 481. **Prerequisite: Permission of Instructor.**

PY 483 Practicum in Experimental Psychology 6-12
Advanced and applied work in experimental psychology. Students work with staff in areas of mutual interest. **Prerequisite: Permission of Instructor.**

PY 487 or 488 Internship in Psychology 6-15
Extensive work in a field or service agency under the supervision of both departmental and agency personnel. Credit will be granted only for work in departmentally-approved settings which provide departmentally-approved experiences. **Prerequisite: Departmental Approval.**

PY 489 Internship in Psychology 12-20
Same description and prerequisites as for PY 487.

PY 493 Independent Study 3-3
Offered primarily to outstanding students of Junior or Senior standing, and requires approval of the professor and of the Chairman of the Behavioral Sciences Department. Independent study may take the form of: special advanced reading programs; problem identification and research; assistantships; acquisition of professional skills. Under no circumstances will independent study be substituted for regularly scheduled courses. Independent study may be taken for from 1 to 6 semester hours.

RUSSIAN

PROFESSOR: John Burke

RU 100 Russian for Beginners I 3-4
Correct pronunciation, reading ability, and fundamentals of grammar and syntax. Russian gradually becomes the working classroom and laboratory language.

RU 110 Russian for Beginners II 3-4

RU 200 Intermediate Russian I 3-4
Remedial pronunciation, grammar variety, conversation, and laboratory practice. Readings stress U.S.S.R. life, customs, and culture. Russian is the working language. **Prerequisite: Two years of high school Russian or RU 110 and/or Instructor's permission.**

RU 210 Intermediate Russian II 3-4
Continuation of RU 200.

RU 360 Russian Literature in English Translation 3-3
A seminar on a specific topic from Russian literature (e.g. Dostoevski & Tolstoy; Soviet Literature etc.) Lectures and readings in English. Emphasis on significant works of Russian and Soviet literature. May be repeated for credit.

RU 370 Russian Culture and Soviet Life (in English) 3-3
An introduction to Russian life and culture as manifested in Russian geography, art, music, film and literature. National characteristics of the Russian people and their influence on Soviet institutions. Everyday life in the Soviet Union. Includes a significant audio-visual component.

RU 490 Independent Study in Russian
Open to students in the language with the permission of the supervising instructor and the Department Chairman. Meeting times and credit by arrangement.

SOCIAL SCIENCE

CHAIRMAN: Norman Carson
PROFESSORS: James Barbato, Muriel McAvoy, George Merriam, Donald Norton
ASSOCIATE PROFESSORS: Lawrence Arnold, Robert Champlin, Robert Gardula, Pasquale Micciche, Caroline Murphy, Edmund Thomas
ASSISTANT PROFESSORS: John Clark, Douglas Hebb, Nancy Wiegersma
INSTRUCTOR: Shirley Haslip

The Social Science Department includes the faculties of economics, geography, history, and political science. Major degree programs are offered in history and geography.

History

The Social Science Department offers a number of alternatives for history majors. Various program arrangements can be structured to student needs. The major includes core requirements with concentrations in Local and Applied History, Russian Studies, Latin American Studies, Western European Studies, American Studies, and Introduction to Museum and Archival work. Students may also become involved in the Legal Internship Program. Concentrations and special programs are arranged through individual advising with faculty. Interested students should contact the Department Chairman. A complete description of this major program and listing of history courses may be found in the section entitled History.

Geography

The degree of Bachelor of Science and Bachelor of Arts in Geography must include the Introduction to Geography and 36 semester hours in one of the following areas: Earth and/or Environmental Science, Urban-Community Development and/or Public Service or Area Development. Courses are structured to prepare students for employment or graduate school. The Bachelor of Science degree contains a core of education courses and 27 semester hours in geography electives. A complete description of the major program and a listing of geography courses may be found in the section entitled Geography.

Economics and political science courses are listed under Economics and Political Sciences.

SOCIOLOGY

COORDINATOR: Harold Melvin
PROFESSORS: Grainger Browning, Harold Melvin
ASSOCIATE PROFESSOR: A. Orin Leonard
ASSISTANT PROFESSOR: Patricia Macrides

Sociology is one of the disciplines which make up the Behavioral Sciences Department. A major field in itself leading to the B.A. or B.S. degree, Sociology courses are also a component of other majors in the Behavioral Sciences.

The major requires 36 semester hours of undergraduate course work approved by the Faculty. Programs are designed for students who are interested in employment immediately on graduation and also for the student who plans to continue on to graduate school. It is a desirable major for pre-law, public administration, public relations, social welfare and related graduate programs. SO 110, Introductory Sociology, is a prerequisite for all other courses in this area.

Each of the regular faculty members serves as advisor to students majoring in Sociology and in conference with the advisee will design a program suited to the student's goals. Strongly recommended for all majors are SO 213 and SO 214, Social Research Methods and Analysis, and SO 216, Social Theory. HS 350, Introduction to Social Work, and HS 374, Probation, are acceptable for the 36 semester hour requirement for a Sociology major.

Course Descriptions

SO 110 Introduction to Sociology 3-3
Structure and process in human group behavior, with consideration of development, maintenance, and change variables. **Prerequisite for all other Sociology courses.**

SO 213 Social Research I 3-3
The purpose of this course is to develop skills in research concepts and techniques related to sociological study.

SO 214 Social Research II 3-3
The course proposes to increase understanding and appreciation of problems, methods, and applications of social research through experience and analysis.

SO 216 Social Theory 3-3
Social philosophy precursors, sociological scientific theorists from Comte to Parsons, contemporary schools of thought in Sociology.

SO 225 Introduction to Anthropology 3-3
The study of cultures: technology, economics, kinship, political structures, languages, and religion. There are no pre-requisites for this course.

SO 235 Sociology of Language 3-3
Includes elements of phonology, dialectology, linguistics, semantics, lexicology, and etymology in relation to age, sex, class and peer group variables.

SO 244 Urban Sociology I: Community Development 3-3
The structure and function of cities in history and modern life.

SO 245 Urban Sociology II: Community Analysis 3-3
The community as a social system. The course includes field study involving observation and analysis of local communities.

SO 250 Race and Ethnic Relations 3-3
Concepts and research relating to understanding and evaluation of relations among ethnic and racial groups with particular emphasis on current black/white relations in America.

SO 251 Future Studies: Sociological Perspective 3-3
Examines various techniques for projecting the future and develops an awareness of alternatives for the future and significant variables.

SO 362 Sociology of Religion 3-3
Structure and function of religious organization, beliefs, and practices. Current issues in American religion.

SO 363 Sociology of The Family 3-3
Structure and function of the family: trends and practical solutions to problems in family living.

SO 365 Industrial Sociology 3-3
Study of industrial organizations and the process of industrialization. The impact of technology and related factors on work organizations will be analyzed.

SO 370 Social Problems 3-3
Consideration of major social problem areas such as: energy, family, government, poverty, health, crime, etc. Etiology, analysis, and prognosis are studied.

SO 375 Criminology 3-3
A survey of the field of criminology including such topics as: professional crime, organized crime, homicide, sex offenses, juvenile delinquency, and the administration of criminal justice.

SO 376 Juvenile Delinquency 3-3
A critical examination of major sociological theories of delinquency including an analysis of empirical studies. Attention will also be given to the juvenile judicial system and proposed treatment programs.

SO 400 Topics in Sociology 3-3
Offered for supplementation and enrichment of offerings in the major. With permission this course may be taken more than once. Topics which have been offered include: Social Stratification, Social Inequality, Social Gerontology and sex/gender roles in society.

SO 483 Practicum in Teaching Sociology 6-15
Provides a variety of work experience under professional supervision. For sociology majors only.

SO 487 Senior Seminar in Sociology 3-3
Preparation for GRE, reviews of course material and complements students' overall knowledge of the field.

SO 487, 488 Internship in Sociology 6-15
Arranged for in consultation with Faculty and carried out under auspices of an approved agency or program in the community, or a state or federal agency or office. This experience should be of such a nature as to develop skills in sociological research and application of sociological concepts and principles.

SO 489 Internship in Sociology 12-30
See SO 487 for description and prerequisites.

SO 490 Independent Study 3-3
A program of study designed with the student to make possible in-depth learning in a specific topic for which no regular course is available. For Sociology majors only. May be taken no more than two times with permission of Faculty. An Independent Study may be taken for 1 to 6 s.h.

SPANISH

ASSISTANT PROFESSORS: Anthony Feroci, Jeannette Scharf

SP 100 Spanish for Beginners I 3-4
Correct pronunciation, reading, ability, and fundamentals of grammar and syntax. Spanish gradually becomes the working classroom and laboratory language.

SP 110 Spanish for Beginners II 3-4
Continuation of SP 100.

SP 200 Intermediate Spanish I 3-4
Spanish America. **Prerequisite: SP 100-110 equivalent.**

SP 210 Intermediate Spanish II 3-4

SP 300 Spanish Civilization I 3-3
Prerequisite: SP 210 and/or Instructor's permission.

SP 310 Spanish Civilization II 3-3

SP 330 Spanish Literature I 3-3
A survey of Spanish and Spanish American literature; conducted in Spanish. **Prerequisite: SP 210 and/or Instructor's permission.**

SP 340 Spanish Literature II 3-3
Continuation of SP 330.

SP 350 Spanish Conversation and Composition 3-3
For students desiring greater fluency in speech and writing. Recommended for civilization and literature courses and foreign language specialization. **Prerequisite: SP 210 or Instructor's permission.**

SP 400 Practical Spanish for the Public Services Professional 3-3
Spanish for people in public services, human services, nursing, medical technology, special education, with special emphasis upon the cultural and psychological characteristics of Spanish speaking peoples.

SP 410 Practical Spanish for the Public Services Professional II 3-3
Continuation of SP 400 or Instructor's permission.

SP 488 Methods for Teaching Spanish in the Elementary School 3-3
Techniques and materials for use in elementary school. **Prerequisite: Minimum of 12 semester hours beyond beginner's level and permission of Instructor.**

SP 490 Independent Study in Spanish
Open to students in the language with the permission of the supervising Instructor and the Department Chairman. Meeting times and credit by arrangement.

SPECIAL EDUCATION

CHAIRMAN: Anne May
PROFESSORS: Rosemary Giovino, Anne May
ASSOCIATE PROFESSORS: William Brown, Katherine Flynn, Lawrence Gomes, Hattie Moreland, Donald Rapp, Michele Zide
ASSISTANT PROFESSORS: Carla Borg, Michael Fiorentino, Sandra Miller-Jacobs

The Special Education Department at Fitchburg State College is the oldest and most comprehensive state program in the Commonwealth of Massachusetts. In this program, emphasis is given to content, application and the ability to use strategies and resources in working with children with special needs.

Fitchburg State provides two major options within the Special Education curriculum. Teacher Education for Children with Special Needs (grades Kindergarten to ninth) and Teacher of Young Children with Special Needs (ages 3-7) are offered.

MAJORS IN SPECIAL EDUCATION

I. Teacher of Children with Moderate Special Needs (K-9 Resource Teacher)
A performance-based program, this undergraduate major prepares students to provide direct services to handicapped children and adults. This is a combined special education and elementary sequence of study which includes concentration in the areas of mental retardation, emotional disturbance/behavioral disorders and learning disabilities.

The bachelor of Science in Special Education must include SE 210, 220, 365, 386; PY 110, 215, 371, 275, 377; AR 228 or MU 480; MA 483 and ED 386; and four electives in Special Education which are chosen from courses SE 230 through SE 490. All Special Education courses must be taken at Fitchburg State College. All requirements are subject to change to the extent required by state regulations governing certification of educational personnel.

II. Teacher of Young Children with Special Needs (ages 3-7)
The Department of Special Education and the Early Children component of the Education Department have combined resources to undertake a comprehensive program to prepare personnel to teach young children with handicaps.

Students are prepared with a firm foundation in early childhood growth and development concepts. Through observation and student teaching students will be exposed to assessment and methods and materials appropriate for young children with special needs. Student teaching experience is required in both a special needs classroom and in a conventional classroom setting.

The Bachelor of Science in Education for the Teacher of Young Children with Special Needs must include ED 100, 210, 211, 220, 240, 270, 310, 311, 405; SE 210, 251, 350, 390; and 12 s.h. of student teaching.

SE 200 Nature & Needs of the Young Child with Special Needs 3-3
This course focuses on the effects of handicapping conditions on the development of young children with special needs. The rationale for early intervention, the importance of the child-environment interaction and current legislation affecting young children with special needs will be discussed. Observations of programs servicing young children with special needs will be made. **Prerequisite: Early Childhood/Special Education Majors.**

SE 210-220 Nature and Needs of Exceptional Children I and II 3-3 each
Etiology, classification, problems of children who have physical disability, mental retardation,

emotional or social difficulties, giftedness. Clinical observations and consultations.

SE 230 Alternative Programs in Special Education

This course is designed to prepare students with the skills necessary to function in alternative programs for persons with special needs, from birth to adulthood.

1. Students will be able to identify alternative programs serving persons with special needs on a continuum and evolving in a cascade for services from birth through adulthood.
2. Students will be able to examine the organizational structure and identify the administrative design, funding sources, staffing patterns, agency collaboration, and community outreach.
3. Students will be able to identify the medical, social psychological and habilitation program aspects and their development.
4. Students will develop a case report on one client.
5. Students will identify components for being a client advocate.
6. Students will design a practicum with an agency under the supervision of an agency professional and a college supervisor.

Prerequisite: Integrated Program, SE 240 must be taken concurrently.

SE 240 Seminar in Special Education: Alternative Secondary Education and Vocational Training Programs

A seminar and field work course that examines programs for low incidence, severely handicapped (MR, ED, and Multi-handicapped) adolescents and adults. In addition to field work teams of students will research and report on various alternative programs, and explore evaluation procedures utilized for placement and curriculum development. This course will focus on the role of the Special Educator as a member of the professional team in alternative programs. **Prerequisite: Integrated Program must take either SE 230 or SE 300.**

SE 250 Drugs and Schooling 3-3

A study of the history of drug use and abuse among school age children and adults. The course involves completing a research orientated learning package and implementing a learning contract designed to meet the students' personalized educational goals related to the topic of drugs and schooling. Topics discussed include preventative and treatment modalities implemented to effect young children, adolescents and adults who have concerns which involve the use of drugs.

SE 251 Identification and Diagnosis of Children with Learning Problems 3-3

Students will:

1. Analyze the learning process in terms of physiological, neurological, social and language development and demonstrate knowledge of a typical developmental pattern.
2. Select and administer evaluative measures in cognitive, perception, motor, language and academic areas and interpret the results.
3. Plan teaching processes for children with learning problems.

Prerequisite: Language and Speech Development.

SE 260 Affective Developmental Strategies 3-3

Students study the affective domain variables as they relate to developmental stages of psychological growth, moral development, achievement motivation, and value clarification. Strategies designed to enhance affective growth within a basic skills curriculum are discussed. Each student designs a unit of study within a basic curriculum subject area utilizing affective strategies to enhance the assessed affective needs of a given population.

SE 300 Habilitation and Rehabilitation of the Special Child 3-3

An analysis of the adaptive problems of the handicapped child and adult. **Prerequisite: Integrated Program, Consent of Instructor must take SE 240.**

SE 310 Early Learning Experiences for Exceptional Children 3-3

This course emphasizes a developmental approach to working with young children with special needs. Students will compare and contrast various screening and assessment devices used for children ages 0-6 and will be able to use developmental check-lists to plan curriculum. Various infant and preschool programs for young children with special needs will be examined. The importance of play will be discussed (Practicum).

SE 330 Current Issues in Special Education 3-3

This course is designed to assist students in Special Education to gain a broad perspective on the aspects of controversy and change which are influencing the profession. In addition, with the inclusion of diverse and, in some cases, incongruent perspectives, the course is intended to stimulate critical thinking among prospective special educators. Various current issues effecting special needs children, their parents, teachers and the continually changing field of Special Education will be researched, examined, and discussed. **Prerequisite: SE 200, 210, SE 220.**

SE 340 The Multiple-Handicapped 3-3

This course deals with theoretical issues, diagnosis, field work, and planning of instruction for children with multiple handicaps. Specialized methods of evaluation in perceptional, motor, language, and tactile functioning will be emphasized. Students will plan strategies to teach motor, perceptional, language and life skills. Students will analyze a task, define the components of the task and identify related tasks utilizing similar skills. **Prerequisites: SE 200, SE 210 and SE 220.**

SE 350 Behavior Management in the Classroom II 3-3

This course prepares the students to implement a variety of behavior management techniques e.g., Time-Out, Contingency Contracting, and Applied Behavior Analysis. Emphasis is on the development of a positive problem-solving approach to manage academic and social behaviors. Consideration is also given to developing an awareness of the teacher's behavior and its effect on the behavior of children.

SE 360, SE 370 Seminar in Special Education I & II Tactile and Motor Implications in Learning 3-3

A study of the major theories of motor learning in exceptional children. Assessment procedures and teaching methods are emphasized throughout. Students will actively participate in developing and demonstrating activities. **Prerequisites: SE 200, 210, and SE 220.**

Spring: Visual Implications in Learning

An introduction to visual impairment in children and youth. Etiology, early identification, methods and materials, and modes of communication (Braille, large print, low vision aids and new technology) will be stressed. Community and state resources will be incorporated. **Prerequisite: SE 200, SE 210, and SE 220.**

SE 365 Integrated Professional Program 15 credits

The Integrated Professional Program in the Department of Special Education is a program that moves the preparation of special educators from a college-based program to elementary schools in the community. In this setting, students have theoretical, observational, and participatory experiences. When a concept or technique is introduced academically, the students have the opportunity to observe a demonstration in the classroom and to engage in a teaching practice.

The College faculty provide guidance, immediate feedback and further demonstrations. The cooperating practitioner also participates in this experience with the student. The students raise questions based on their academic and participatory experiences and share ideas, problems and learning with other professionals.

The program prepares teachers to meet the educational/social needs of students who manifest learning/behavior problems in the regular elementary classroom environment.

The Integrated Program is a one semester-15 week course/practicum. Students spend three and one half (3½) hours, five days a week for twelve weeks working with children in a regular elementary classroom.

Course Content:

1. Reading
2. Language Arts
3. Identification of Learning Problems
4. Behavior Management
5. Methods and Planning
6. Curriculum
7. Communication Skills

SE 380 Secondary Programs for Adolescents (14-22) with Special Needs 3-3

The college student will attend lectures, complete readings, and participate in discussions related to academic programming for adolescents between the ages of 14 to 22 in a variety of educational settings. Each student will complete a ten-hour supervised academic skill-related practicum in an educational facility.

SE 386 Student Teaching 12 SH

One of the significant aspects of the curriculum is student teaching. All students are assigned to two student teaching stations, each eight weeks in length, and at either the elementary or the secondary level as appropriate. One station is in a "Special Needs" room. The other is a regular classroom that is not a special needs room. The cooperating teachers selected for this program have been carefully screened in respect to certification requirements, their ability as teachers, and their identification with the program. Each student assumes complete classroom responsibility in each station guided by the cooperating teacher and the college supervisor. Students receive certification as elementary teachers with approval as special education teachers.

SE 390 Language Development and Speech 3-3

In this course students will:

(a) Explain normal development of auditory receptive language and auditory expressive language from birth to 7 years;
(b) Analyze linguistic development, phonology, morphology, and syntax;
(c) Compare and contrast various theories of language acquisition;
(d) Select and administer instruments to diagnose receptive and expressive deficits, interpret the results, and plan teaching strategies.

Prerequisite: ECH/Sp. Ed. majors, others by consent of Instructor.

SE 400 Program Development for Children with Learning Problems 3-3

In this course students will:

(a) Explain models of language behavior and determine dysfunctioning in factors associated with language development;
(b) Critically evaluate the research and literature relating to the development of linguistic and perceptual-motor performance;
(c) Interpret, compare, and contrast the theories regarding diagnosis and treatment of learning disabilities;
(d) Select and administer evaluative measures in the cognitive, perceptual and psychomotor domains;
(e) Plan and write education programs for individual children with moderate to severe handicaps based on assessment data;
(f) Make application of the principles of diagnosis and remediation and the theoretical formulations having relevance for learning disabilities in situations dealing with children in the public schools.

Prerequisite: The Integrated Professional Program (Fusion)

SE 405 Issues in Mainstreaming 3-3

Course is designed for Early Childhood and Elementary education majors as a post student-teaching elective. The issues will be applied to the public school system as they relate to the special needs child. Topics will include litigation, Chapter 766, mainstreaming, teacher expectations, accountability, the educational plan, reporting procedures, peer tutoring, human resources, and program models.

SE 410 Severely and Profoundly Handicapped 3-3

This course will define the severely handicapped population, emphasizing their characteristics and needs. The course offers an opportunity, through course work and a weekly practicum, for students to interact with a severely handicapped individ-

ual and develop an assessment, educational plan, and instructional program for that individual. In addition, the course will outline strategies and techniques for changing behavior of children functioning at this level, and will offer suggestions for meeting the needs of these individuals in the total school program. An overview of services now available for the severely handicapped will also be provided. **Prerequisite: SE 200, 210 and SE 220.**

SE 460 Problems in Language Arts for Special Education 3-3
Students identify, develop, use resources related to classroom problems in language areas. Stages of development and deviations of exceptional children are emphasized.

SE 468 Group Process and Counseling of Children with Mild to Moderate Special Needs 3-3
Goals of individual adjustment of exceptional children, evaluation of techniques for gathering and utilizing information, and principles and techniques of using such material in counseling children.

SE 469 Community Resources for the Exceptional Child 3-3
Identification of agencies, practices, and personnel, development of models, simulation of roles, and production of a guide.

SE 496, 490 Independent Study 3 SH
Review, development, and synthesizing of a problem in special education. Open to juniors and seniors with permission of Instructor.

SPEECH

ASSISTANT PROFESSORS: Eugene Casassa, Robert Welch
INSTRUCTOR: Rosemary Reed

SH 01 Speech Improvement 1-1
Remedial course. Students are assigned after diagnosis and recommendations of need for speech improvement. Individual and group therapy.

SH 100 Introduction to Speech Communication 3-3
An introduction to the theory and practice of interpersonal and public communication. Topics include: communication theory, self-concept, perception, language, listening, nonverbal communication, and public speaking.
Meets General Education speech requirement.

SH 110 Argumentation and Debate 3-3
Projects in argumentation and debate with emphasis on analysis, research, evidence, strategies, briefing, refutation, and the delivery of debates on representative questions.

SH 120 Business and Career Communication 3-3
Application of theory and methods of communication to business and career problems. Emphasis is placed on skills especially important to students planning on working for and/or within an organization, such as resume writing, interviewing, and group conference techniques.
Meets General Education requirement for Speech.

SH 130 Effective Speaking for the Electronic Media 3-3
This course will introduce the student to a variety of speaking experiences encountered by those who plan to use the electronic media as part of the performance of an occupation. The course should interest students who anticipate speaking roles in industry-made audio and video productions as well as those who aspire to careers as professional broadcasters. The course will include such assignments as the oral delivery of news items and public service announcements. Major attention will be given to the presentation of narratives coordinated with audio and visual aids. Meets general education speech requirements for those majoring in Communications/Media.

SH 140 Discussion and Conference Techniques 3-3
The fundamentals of group discussion in private and public settings. Emphasis is placed on group structure, leadership, interpersonal relationships, and includes extensive practice in varied group situations.
Meets General Education requirement for Speech.

SH 160 Public Speaking 3-3
A course of value for all students regardless of major. Especially useful to students with an interest in public affairs and a desire to influence the decisions of others. Course concentrates on the development of skills and assurance in public speaking through the preparation and presentation of specific forms of public address. Emphasis is given to audience analysis and rhetorical strategies.
Meets General Education requirement for Speech.

SH 180 Prison Communication 3-3
The study and application of interpersonal communication within the penal system. Special emphasis is placed on role playing techniques to help students gain a greater understanding of prisoner-volunteer-guard-administrator relationships and how each functions within the system. Recommended for those interested in a corrections related career.
Meets General Education requirement for Speech only with permission from the Instructor and student's advisor.

SH 210 Intercollegiate Debate and Forensics 1-1
Opportunities for study and participation in debate and forensic speaking activities.

SH 240 Voice and Articulation
Examination of the elements of vocal production and presentation. Special emphasis on the study of and application of phonetic theory. Designed for the student desiring improved voice and articulation quality, accuracy, and clarity.
Meets General Education requirement for Speech.

SH 260 Persuasion 3-3
A study of the causes of listener belief and action with special emphasis given to the development of strategies to influence listener behavior. Stu-

dents have the opportunity to devise persuasive campaigns on subjects of their choosing.

SH 261 Basic Speech for the Industrial Arts 3-3
Application of methods of communication for the industrial arts. Special emphasis is placed on the basics of articulation and the presentation of technical language and concepts in simplified terms. Idea organization, language use, and delivery techniques are included through extensive practice.
Meets General Education requirement for Speech only with Instructor's approval and permission from student's advisor.

SH 270 Voice and Articulation for the Classroom Teacher 3-3
Examination of children's speech and basic articulatory problems that may arise. Emphasis is placed on common speech problems encountered in the classroom and activities to use for these problems.
Recommended for Elementary and Special Education majors.

SH 280 Rhetorical Criticism 3-3
Exploration of approaches to the rhetorical criticism of significant speeches and speech movements, past and present. Includes rhetorical, literary, historical, linguistic, and quantitative methods of criticism.

SH 420 Children's Theatre 3-3
An introductory course in theatre for children, its principles and practices. Covers aspects of play production for juvenile audiences: script selection and evaluation, directing, acting, and staging techniques.

SH 430 Mime and Movement in Theatre 3-3
A workshop-oriented course utilizing the basic techniques of theatrical mime and movement with emphasis on developing each student's potential for effective physicalization on the stage.

SH 490 Independent Study 3-3

COLLEGE DIRECTORY

BUILDINGS AND GROUNDS

The 90-acre campus includes academic buildings, an administration complex, three residence halls, an apartment residence complex, the library/campus center, an auditorium/theater, a dining commons, and gymnasium. A short distance north of the campus is a 36-acre athletic and recreational area and the McKay Campus School, a cooperative laboratory facility involving college education students and elementary children. The Biology Department maintains a 75-acre field station on the property of the 4-H Camp Middlesex in Ashby.

Anthony Building, 1936, was named for Willis B. Anthony, Director of the Industrial Arts Department, during the period 1909-1947 and serves as a warehouse and supply distribution center and the office of the Athletic Director.

Aubuchon Hall, 1966, was named for William E. Aubuchon, Jr., Trustee of the Massachusetts State College System, 1965-1974, and is a residence hall for 380 students.

Campus Police Headquarters, 1978, is located on the west side of the Campus Quadrangle and also houses the office of the Superintendent of Grounds and the power plant.

Condike Science Building, 1963, named for Dr. George F. Condike, professor of Chemistry 1947-present and Academic Dean 1954-1956, it houses the offices of the Vice President for Academic Affairs and the Dean of Undergraduate Studies and the following academic departments: Biology, Chemistry, Medical Technology, and Computer Science.

Conlon Building, 1976, named for Florence Conlon, professor, 1920-1961, it houses the offices of the Humanities Department, including the Art, Music and Philosophy facilities, the Industrial Arts Department, the Image Systems Department, the photography laboratories and the television studio.

Edgerly Hall, 1900, named for Joseph G. Edgerly, Superintendent of Schools in Fitchburg, 1875 to 1914, it contains the offices of Career Planning and Placement, the Geography Department, the Veterans Administration representative and offices and classrooms for Army ROTC, and the Advising Center.

Hammond Building, 1975, was named for James J. Hammond, Instructor and Commonwealth Professor, 1937-1962; President, 1963-1976; Chancellor of the Massachusetts State College System, 1976-present. The Hammond Building contains the Campus Center, Library, Data Processing Center, Learning Resource Center, the Massachusetts Film and Media Service Cooperative, and the A.I.D. office.

Herlihy Hall, 1957, named for Charles M. Herlihy, Principal, 1927-1932 and President, 1932-1944, it is a coed residence hall and houses 142 students.

Holmes Dining Commons, 1973, was named after Roger Franklin Holmes, Professor of history from 1928 to 1969.

McKay Campus School, 1971, was named for Edith McKay who in 1950 donated ten acres of land to the City of Fitchburg. Besides being a campus laboratory school, the McKay Campus School contains the offices of the Departments of Foreign Languages, Early Childhood, Elementary, Secondary, and Special Education, the Center for the Study and Research in Human Development, the Physics and the Business Administration Departments.

Miller Hall, 1903, was named for Joel D. Miller, a Massachusetts State Senator, 1894-1897 and member of the State Board of Education, 1895-1909, it contains the English, Speech, Mathematics and Social Science Departments, the college Health Center, and The Fitchburg State College Education Association.

Newman Center, 281 Highland Avenue, owned by the Worcester Roman Catholic Diocese, is the Center for the Newman Association and includes an ecumenical chapel, a lounge for studying and socializing, a kitchen and recreation room for all students.

Parkinson Gymnasium, 1957, was named for William D. Parkinson, principal from 1920 to 1927, contains offices and classrooms of the Physical Education Department.

Percival Hall, 1909, was named for Harry F. Percival, professor, 1931-1953, it houses the Behavioral Science Department, including the Psychology, Sociology and Human Services offices.

Russell Towers, 1971, was named for Dean Helen Ross Russell, Professor 1949-1966. It is a coed residence hall for 405 students.

Sanders Administration Building, 1963, named for William J. Sanders, President 1945-1950, contains the offices of the President and his support staff, including the Vice Presidents for Administration and Student Services, the colleges business offices, Registrar, Admissions and Financial Aid Offices.

Thompson Hall, 1895, named for John G. Thompson, principal 1895 to 1920, it houses the offices of the Dean of Graduate and Continuing Education, Director of Field Services, the Nursing Department, and the Communications Media Department.

Town House Complex, 1978, is a 7-building complex, which provides apartment style units for groups of 5, 6, or 7, with a separate bedroom for each member of the group. The apartment buildings are coed, but the sub units in the building are not. The complex has two apartments, designed for the handicapped.

PARKING REGULATIONS

Parking facilities at Fitchburg State College are limited, but are being gradually expanded.

Commuting students are required to obtain identification stickers if they wish to park in student lots on campus.

There are no parking areas assigned to resident students. Junior and senior residents whose curricula require travel to nursing and teaching assignments should confer with the Dean of Students Office.

More specific information is contained in the booklet entitled "Motor Vehicle Regulations."

ANIMALS ON CAMPUS

Due to health and safety considerations, no animals can be allowed on campus or in campus buildings at any time. Obvious exceptions would be seeing-eye dogs and laboratory animals.

MASSACHUSETTS TRESPASS ACT

Fitchburg State College is governed by the Massachusetts Trespass Act, enacted June 2, 1969.

TRESPASSING UPON THE LAND OF CERTAIN INSTITUTIONS

Whoever willfully trespasses upon land or premises belonging to the Commonwealth, or to any authority established by the general court for purposes incidental to higher education . . . . after notice from an officer of any of said institutions to leave said land, remains thereon, shall be punished by a fine or not more than $50 or by imprisonment for not more than three months.

CORRESPONDENCE AND VISITS

The post office and telegraph address of the College is:

Fitchburg State College
160 Pearl Street
Fitchburg, Ma., 01420

The telephone number of the College is: (617) 345-2151.

The following administrators have information on subject matters listed below:

The President:
General interests of the College.

The Academic Dean:
Academic services, faculty and academic professional staff.

The Dean of Undergraduate Studies:
Curriculum, academic work of students.

The Registrar:
Academic records, transcripts.

The Dean of Students:
Financial Aid, scholarships, remunerative work, housing, athletic programs, career planning and placement.

Director of Admissions:
Admission to the freshman class and transfer from another college.

Bursar:
Payment of bills and business matters.

CLASS CANCELLATIONS

In the event of inclement weather the cancellation of classes will be reported on WBZ, WEIM, WFGL, WTAG, WGAW, WEEI and WLMS radio stations.

ADMINISTRATION

OFFICE OF THE PRESIDENT

VINCENT J. MARA, President
B.S.Ed., Ed.M., Worcester State College; Ph.D., University of Connecticut. 1976

PATRICK F. DELANEY, JR., Vice President, Academic Affairs
A.B., Providence College; A.M.I., Ph.D., Brown University. 1979

WILLIAM R. DONOHUE, Vice President, Student Affairs
B.A., University of Northern Iowa; M.A., Ph.D., Michigan State University. 1978

JOHN J. BOURSY, Vice President, Administration and Finance
B.S., Holy Cross College; M.B.A., Clark University. 1964

TERRANCE CARROLL, Staff Associate
A.B., Northeastern University; M.Ed., Fitchburg State College. 1974

THOMAS COATES, Director, Personnel Services
B.A., Western Michigan College; J.D., New England College of Law. 1974

DANIEL S. FLYNN, Director, Community Services
A.A., Worcester Junior College; A.B., Assumption College. 1978

FRANCIS X. GUINDON, Director, Planning and Development
A.B., Notre Dame University; M.Ed., Bridgewater State College; Ed.D., Harvard University. 1970

ROY HALL, III, Director, Computer Services
B.S., Framingham State College. 1977

OSCAR W. HARRELL, II, Director, Minority Affairs and A.I.D.
A.B., Virginia Union University; M.A., C.A.G.S., Assumption College. 1974

BRUCE HARRELSON, Staff Assistant
A.S., Mt. Wachusett Community College; B.S., University of Massachusetts. 1979

CARLETON H. LaPORTE, JR., Assistant To The President
A.B., M.A., Assumption College; LL.B., J.D., Boston University. 1969

ACADEMIC AFFAIRS

PATRICK F. DELANEY, JR., Vice President, Academic Affairs
A.B., Providence College; A.M.T., Ph.D., Brown University. 1979

CHRISTINE COSGROVE, Dean, Undergraduate
A.B., Mt. Holyoke College; M.S., Ph.D., Georgetown University. 1971

JOHN F. NASH, Dean, Graduate & Continuing Education
A.B., M.S., Boston College; EXD.M., Boston University; Ed.D., Syracuse University. 1958

RICHARD F. CONDON, Associate Dean, McKay Campus School
B.S., M.Ed. Fitchburg State College. 1959

LAWRENCE A. OVIAN, Associate Dean, Graduate & Continuing Education
A.B., Bates College; Ed.M., Pennsylvania State University; Ed.D., University of Massachusetts. 1971.

JOSEPH A. ANGELINI, Director, Admissions
B.S., Providence College; M.Ed., Boston College; C.A.G.S., Boston University. 1958

GEORGE J. AZIZ, Director of Student Records and Registrar
B.S., Boston University; Ed.M., Worcester State College. 1970

WILLIAM T. CASEY, Director, Library
B.S., M.A., Boston College; M.S., Simmons College. 1967

NORMAN C. LOCKE, Director, Image Systems
B.A., M.Ed., Boston University. 1971

JOHN J. MAZEIKA, Associate Director, McKay Campus School
B.S., College of the Holy Cross; M.Ed., Boston College. 1966

PAULA I. ROBBINS, Associate Director, Graduate Studies
B.A., Vassar College; M.Ed., Boston University; Ph.D., University of Connecticut. 1977

MARKE M. VICKERS, Associate Director, Admissions
B.A. Ohio Wesleyan University; M.A. University of Northern Colorado. 1979

ROBERT W. GREENE, Assistant Director
B.S., Worcester State College; M.Ed., Northeastern University; Ph.D., University of Connecticut. 1960

JOSEPH WAGNER, Assistant Director, Admissions.
B.A. College of the Holy Cross. 1979

THOMAS CARDAMONE, Staff Assistant, Industrial Technology
Certificate, Lithography Program, Boston University. 1975

ALFRED M. LEE, III, Staff Assistant, Image Systems
B.A., Brooklyn College; M.F.A., Rutgers University. 1976

DENISE POPKO, Staff Assistant
A.S. Greenfield Community College; B.S. Fitchburg State College. 1979.

HOWARD J. RIVERS, Staff Assistant, Image Systems
Certificates: Main Photographic School, Nikon School Seminar. 1977

ROBERT THOMAS, Staff Assistant, Image Systems
B.A., M.A., M.Ed., Fitchburg State College. 1976

STUDENT SERVICES

WILLIAM R. DONOHUE, Vice President, Student Services
B.A., University of Northern Iowa; M.A., Ph.D., Michigan State University. 1978

LON S. VICKERS, Associate Dean, Student Services
B.A., University of New Mexico; M.A., Ph.D., University of No. Colorado. 1979

ELIZABETH KEOUGH FONTAINE, Director, Financial Aid
B.S., Assumption College. 1978

ELIZABETH KRUCZEK, Director, Athletics
B.S., Boston University; M.Ed., Worcester State College. 1966

BESSIE J. PALMISCIANO, Director, Housing
B.A., M.A., University of R.I. 1977

RAOUL REBILLARD, Director, Student Union
B.S., University of Maryland; M.S., So. Connecticut State College. 1975

PAUL E. COCHRANE, Medical Director, Student Health Service
M.D., Tufts University. 1977

RAYMOND E. BRYANT, Assistant Director, Career Planning and Placement
B.S., Ed., Fitchburg State College; M.Ed., California State College. 1971

DEBORAH G. WOOLARD, R.N., Staff Associate, Student Health Services
Family Nursing Practitioner Program. 1977
JOSEPHINE DONOHUE, Staff Assistant
B.A., Fitchburg State College; M.A., Anna Maria College. 1979
THOMAS OLIVER KELLY, Staff Assistant
B.A., M.S., Indiana University. 1979
MICHAEL B. McNAMARA, Staff Assistant—Weekend & Night Supervisor Campus Center
B.A., University of Massachusetts. 1976
RICHARD STEWART, Staff Assistant
B.S., University of Vermont. 1979

ADMINISTRATION AND FINANCE

JOHN J. BOURSY, Vice President, Administration
B.S., Holy Cross College; M.B.A., Clark University. 1964
MICHAEL T. RIVARD, Director, Fiscal Affairs
A.A., Worcester Junior College; B.S. Boston University; M.B.A., Anna Maria College. 1966
JOHN STROHBEEN, Associate Director, Buildings and Grounds
B.S., Massachusetts Institute of Technology. 1970
SAMUEL C. JOHNSTON, Staff Assistant, Purchasing
A.A., New England School of Accounting. 1973
EDWARD F. LEARY, Staff Assistant
B.S. in B.A., Boston University; M.Ed., Fitchburg State College. 1971
J. DAVID McGUIRK, Staff Assistant, Campus Police
Certificate, Worcester Police Academy. 1969

FACULTY

ROSE ANN ADDORISIO B.S.Ed., M.Ed., Fitchburg State College. Assistant Professor, McKay Campus School. 1969
NEAL ANDERSON A.B., M.S., University of Utah; Ph.D., Cornell. Associate Professor, Biology. 1970.
JAMES ANDREWS B.S. Ed., M.Ed., Fitchburg State College. Assistant Professor, Industrial Technology. 1978
JOSEPH A. ANGELINI A.B., Providence College; Ed.M., Boston College; C.A.G.S., Boston University. Director of Admissions and Assistant Professor, Mathematics, 1958
HENRY ARES B.A., University of Moncton (Canada); M.Ed., Fitchburg State College, Assistant Professor, McKay Campus School. 1970
LAWRENCE ARNOLD B.A., King's College; M.A., Fordham University; Ph.D., Trinity College (Dublin). Associate Professor, History. 1968
ELMER ARSENAULT B.E., Tufts University; M.F.A., Syracuse University, Associate Professor, Art. 1958
GEORGE BABICH B.A. Atlantic Union College; M.S., Loma Linda University; Ph.D., University of New Hampshire. Assistant Professor, Biology. 1978
DAVID BAKKEN A.B., University of Michigan; M.A., Ph.D., Boston University. Assistant Professor, Behavioral Science. 1978
STEPHEN P. BALDWIN A.B., Harvard College; M.Ed., Boston University. Assistant Professor, Industrial Arts. 1978
LILLIAN BANNON B.S., Nursing Ed., Boston College School of Nursing; M.Ed., Boston College; M.A., Assumption College. Associate Professor, Nursing. 1962
PATRICIA BARBARESI B.S. Ed., Fitchburg State Teachers College; M.A., University of Connecticut; Ed.D., Cornell University. Professor, Education. 1965
JAMES BARBATO A.B., Assumption College; M.A., Clark University; Ph.D., Boston University. Professor, Geography. 1972
WILLIAM BARKER A.B., Boston University; M.A., Brandeis University; Ph.D., Brandeis University. Chairman and Professor, English. 1971
THOMAS BATTINELLI A.A., B.S., Boston University; M.Ed., Boston College; Ed.D., Boston University. Chairman and Professor, Physical Education. 1960
DONNA BECHIS B.F.A., Hunter College; M.F.A., University of Pennsylvania. Associate Professor, Art. 1974
ROBERT BENTLEY B.A., M.A., Wayne State University. Assistant Professor, Mathematics. 1977
APRIL BERGERON B.S., Fitchburg State College; M.S.N., University of Kentucky. Instructor, Nursing. 1980
ALAN BERNSTEIN B.A., Hofstra University; M.A., University of New Hampshire; Ph.D., Tufts University. Associate Professor, Psychology. 1969
HOWARD BESNIA A.B., Clark University; B.F.A., M.F.A., Yale University. Associate Professor, Industrial Arts. 1960
ANN BOGOJAVLENSKY A.B., Mount Holyoke College; M.A., Columbia University; M.B.A., Boston University. Instructor, Business Administration. 1980
GEORGE BOND A.B., Dartmouth College; M.S., Ph.D., University of Rhode Island. Associate Professor, Biology. 1973
CARLA BORG B.A., West Virginia Wesleyan College; M.Ed., Boston State College. Assistant Professor, Special Education. 1969
COLIN BOURN A.B., St. Michael's College; M.Ed., Fitchburg State College; M.A., University of Massachusetts. Assistant Professor, English. 1965
NORMAN BOUTILLETTE B.A., M.Ed., Worcester State College. Instructor, McKay Campus School. 1980
WILLIAM BOWERS B.S. Ed., Eastern Michigan University; M.S., Michigan State University; Ed.D., University of Massachusetts. Professor, Communications/Media. 1964
G. JEFFERSON BREEN A.B., M.Ed., Ed.D., Clark University. Associate Professor, Psychology. 1972
WILLIAM BROWN B.S.G.E., University of Omaha; Ed.M., Ed.D., Boston University. Associate Professor, Special Education. 1972
GRAINGER BROWNING A.B., Shaw University; M.A., Ph.D., Boston University. Professor, Sociology. 1966
STANLEY BUCHOLC B.A., Glassboro State College; M.A., Ed.D., W. Virginia University. Associate Professor, Industrial Arts. 1976
JUDITH BUDZ B.A., University of Michigan; M.A., Tufts University; Ph.D., Northwestern University. Associate Professor, English. 1974

JOHN BURKE A.B., Boston College; A.M., Fordham University; Ph.D., Brown University. Chairman, Humanities Department and Professor, Russian and German. 1969

RUTH BUTLER B.A., Saint Joseph College; M.A., Trinity College; Ph.D., Yale University. Professor, Mathematics. 1970

DAVID A. CAREY B.A., M.A.T., St. Michael's College; M.S., University of Massachusetts. Instructor, Business Administration. 1980

JOSEPH CARPENTER B.S. Ed., Fitchburg State Teachers College; Ed.M., Worcester State Teachers College; C.A.G.S., University of Connecticut. Associate Professor, Industrial Arts. 1957

NORMAN CARSON B.S., M.S., State University College of New York at Brockport. Chairman and Assistant Professor, History. 1964

TERESA CARSTEN B.S., State University of New York; Ed.M., Boston University. Assistant Professor, Communications/Media. 1974

EUGENE CASASSA B.S. Ed., Fitchburg State College; M.A., Columbia University. Assistant Professor, Speech. 1958

GEORGE CASE B.A., College of Wooster; M.A., University of Massachusetts. Assistant Professor, English. 1964

ROBERT CHAMPLIN B.S., Bridgewater State College; Ed.M., Boston University; Ph.D., Ohio State University. Associate Professor, Geography. 1972

JOHN CLARK B.A., American International College; M.A., Clark University. Assistant Professor, History. 1962

ROBERT W. CLARK A.B., Brown University; M.Ed., State College at Bridgewater; M.A., Rutgers University. Chairman and Assistant Professor, Mathematics. 1967

GEORGE CONDIKE A.B., DePauw University; Ph.D., Cornell University. Professor, Chemistry. 1947

RICHARD F. CONDON B.S. Ed., Ed.M., Fitchburg State Teachers College. Principal and Instructor, McKay Campus School. 1959

DÈNISE CONNORS R.N., St. Francis School of Nursing; B.S., Boston College. Instructor, Nursing. 1977

NICHOLAS COPOULOS B.S., M.Ed., Boston University. Assistant Professor, Mathematics. 1957

CHRISTINE COSGROVE A.B., Mt. Holyoke College; MS., Ph.D., Georgetown University. Dean, Undergraduate, and Associate Professor, Mathematics. 1971

HARRY CROWLEY B.S., Bates College; Ed.M., Ed.D., Boston University. Professor, Behavioral Sciences. 1956

LEE CUNNINGHAM B.S., Springfield College; M.Ed., University of Massachusetts; D.P.E., Springfield College. Associate Professor, Physical Education. 1967

ELIZABETH CZAPRAN B.S., M.Ed., University of Massachusetts. Assistant Professor, McKay Campus School. 1972

FREDERIC DAVIS B.S.E.E., University of Connecticut; M.S., Ph.D., University of Massachusetts. Professor, Biology. 1967

RICHARD DECESARE B.S., Holy Cross College; M.A., Ph.D., Boston College. Associate Professor, Philosophy. 1962

LUCY I. DECHÊNE B.S., University of San Francisco; M.S., Ph.D., University of California at Riverside. Assistant Professor, Mathematics. 1978

LEE DENIKE B.A., M.A., State University of N.Y. at Albany; M.Ed., State University of N.Y. at Buffalo; Ph.D., Kent State University. Chairman and Professor, Communications/Media. 1974

HAROLD DESMOND B.S., M.Ed., Fitchburg State College; C.P.G.S.P., Boston College. Assistant Professor, McKay Campus School. 1967

STANLEY DICK A.B., Brooklyn College; M.A., Ph.D., Harvard University. Chairman and Professor, Biology. 1971

JOYCE DOWNEY B.S., Bridgewater State College; Ed.M., Boston University. Assistant Professor, Physical Education. 1968

VIRGINIA DOYLE B.S.N., Boston College School of Nursing; M.S., Catholic University of America; M.Ed., Fitchburg State College. Assistant Professor, Nursing. 1967

RITA DRISCOLL B.S., Clark University; M.S., C.A.G.S., Brown University. Associate Professor, Nursing. 1964

JOHN DUFAULT A.B., Assumption College; M.S., University of Massachusetts; Ph.D., Boston College. Professor, Psychology. 1972

ERNEST FANDREYER MA/MSC, University of Bonn. Assistant Professor, Mathematics. 1968

JOSEPH FARIAS B.S. Ed., Ed.M., Fitchburg State Teachers College. Assistant Professor, Industrial Arts. 1961

ANTHONY FEROCI B.A., Suffolk University; M.A., Middlebury College. Assistant Professor, Spanish. 1968

JOSEPH FINKEL A.B., University of Massachusetts; A.M., University of Chicago. Assistant Professor, English. 1969

MICHAEL FIORENTINO, JR. B.S. Ed., Fitchburg State College; M.Ed., Boston University; Ed.D., University of Massachusetts. Assistant Professor, Special Education. 1975

ELIZABETH ANN FISK B.S. Ed., Fitchburg State College; M.S.N., Boston University. Instructor, Nursing. 1978

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